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ABSTRACT

This book contains the following papers on the Leonardo da Vinci project: "Looking for Post-16 Education Strategies for Parity of Esteem in Europe" (Lasonen); "Improving Parity of Esteem as a Policy Goal" (Makinen, Volanen); "Alternative Strategies for Parity of Esteem between General/Academic and Vocational Education in Europe" (Kamarainen); "Finding New Strategies to Improve the Attractiveness of Post-16 Vocational Training in Austria" (Birke et al.); "Post-16 Strategies and the Austrian Reforms" (Birke et al.); "Academic and Vocational Learning: Division, Framework or Unified System" (Young, Spours); "The Reform of Academic and Vocational Qualifications in England and Wales: The Six Leonardo Themes" (Spours, Young); "The Experimental Reform of Finnish Upper Secondary Schools and the Cases of Salo and Tornio" (Numminen, Virolainen); "Post-16 Strategies and the Experimental Reform of Finnish Upper Secondary Schools" (Virolainen); "French Educational System" (Levrat); "Confrontations between Different Cognitive Fields and Restructuring a Relationship to Knowledge among Vocational Teachers" (Lazar); "Post-16 Strategies and the French National Reform of the Upper Secondary School" (Levrat, Lazar); "The Brandenburg Model Project: Combining the Apprenticeship System and the German Dual System with Access to Polytechnics" (Bremer, Heidegger); "Post-16 Strategies and the German Approach to Parity of Esteem" (Bremer); "Norwegian Upper Secondary Reforms in Academic/General and Vocational Education in the 1990s" (Andersen); "Issues Related to the National 'Reform-94' in the Norwegian Upper Secondary School" (Andersen); "The Development of a Unified System of Post-Compulsory

Education in Scotland" (Raffe); "Issues in the Scottish Reform Programme: 'Higher Still' in Relation to the Six Themes" (Raffe); "General Scottish Vocational Qualifications (GSVQs) in Relation to the Six Themes of the Post-16 Strategies" (Murray); "Another Change in the Upper Secondary School in Sweden" (Arnman); "Notes on the Six Leonardo Themes" (Arnman); "Improving Parity of Esteem through Reforms" (Volanen, Levrat); "Labour Market Issues in the Eight Reforms" (Raffe, Makinen); "Networking between Schools and Working Life to Find New Forms of Learning for Future Skills" (Young, Bremer); "Flexibility in Post-16-Education and Curriculum Development" (Arnman, Lazar); "Teacher Education and Teacher Cooperation and Collaboration in Support of Reform" (Virolainen et al.); "Reforms and Their Influence on Educational Systems" (Birke, Spours); and "European Strategies for Parity of Esteem" (Raffe). (KC)

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ED 402 455

Johanna Lasonen (Ed.)

REFORMING UPPER SECONDARY EDUCATION IN EUROPE

The Leonardo da Vinci Project
Post - 16 Strategies

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INTERIM REPORT OF THE PROJECT
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Finding New Strategies for Post-16 Education by Networking
Vocational and Academic/General Education and Working Life
to Improve the Parity of Esteem for Initial Vocational Training
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REFORMING UPPER SECONDARY EDUCATION IN EUROPE

SURVEYS OF STRATEGIES FOR POST-16 EDUCATION TO IMPROVE
THE PARITY OF ESTEEM FOR INITIAL VOCATIONAL EDUCATION
IN EIGHT EUROPEAN EDUCATIONAL SYSTEMS

Editor: Johanna Lasonen

The project is carried out with the financial support of the Commission of the European Communities under the Leonardo da Vinci Programme.

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The Purposes of the Project

The Project aims to examine and compare educational policy goals and solutions meant to integrate vocational and general education and training and bring school-based and work-based learning closer to each other so as to improve the parity of esteem for vocational education. The researchers collaborating in the Project will collect, describe, compare and analyse strategies for developing upper secondary education together with the available experiences and findings of upper secondary education experiments in seven European countries. Cooperation with and study visits to pilot schools will be partly used to evaluate how far the reform goals and strategies being applied in each country are being realized in educational institutions so as to improve the attractiveness of vocational education. The project will create national and European cooperation networks between schools, teachers, school administration and researchers. The schools may use the project to establish links with other European pilot units.

The Project will be carried out in two phases, as surveys and as analyses. The aim of the first or survey phase is to outline problems linked with the attractiveness of vocational education. On the basis of the material collected in the present report, the project is attempting to answer the following questions:

1. What is the status of upper secondary-level initial vocational education in eight European educational systems?
2. What upper secondary education reform strategies are being applied in these countries?

The Partners

The partners are from six EU member states and Norway, representing eight different educational systems (England, Scotland, Austria, France, Sweden, Norway, Germany and Finland). The researchers represent leading European research institutes and

other organizations: Post-16 Education Centre, London; Industriewissenschaftliches Institut (IWI), Vienna; Institut für Berufs- und Erwachsenenforschung (IBE), Linz; Högskolen i Agder, Kristiansand; Centre International d'Études Pédagogiques (CIEP), Sèvres; Institut National de Recherche Pédagogique (INRP), Paris; Skolverket, Lund; Institut Technik und Bildung (ITB), Bremen; Centre for Educational Sociology (CES), Edinburgh; Scottish Vocational Education Council (SCOTVEC), Glasgow; and Koulutuksen tutkimuslaitos (KTL), Jyväskylä. In addition, a department head of the National Board of Education responsible for the Finnish youth education experiment is also taking part in carrying out the Post-16 Strategies Project.

The partners have conducted research on secondary education on national and international level. The Scottish and English partners will contribute their experiences of modular curricula and vocational qualifications and of the principles applied in integrating vocational and general education in the coming projects to reform their schools, *Unification and Higher Still*. Austria and Germany will assess their experiences of integrating vocational and general education in school and in combined work-based learning in connection with the reform projects of their Dual system. France will examine and bring in as comparative material their experiences of, among other things, the French technologically and vocationally oriented Baccalaureates and the pedagogical developments involved in their delivery. The Post-16 Strategies Project will also receive the results of the 1994 secondary education reform in Norway and the teacher training project linked with it. The comparative material on the reform of the Swedish comprehensive school will be shaped particularly by the perspective of the study programmes constructed by the students. In Finland sixteen localities have since 1991 been involved in a wide-ranging youth education experiment. Students in local general secondary schools and vocational school are able, as part of their daily studies, to benefit from instruction delivered by either type of educational institution by taking courses offered by general upper secondary schools, vocational schools as well as by other youth education institutions in the locality. The frameworks constructed to explain each of the eight different national educational systems are used to assess how far various types of reform project are capable of enhancing the attractiveness of and esteem for vocational education.

Survey Methods

The project surveys and analyses strategies for school reform, whether completed or underway, whose aim is enhancing the attractiveness of vocational education. The interim data of the project consist of existing national documents, expert assessments and the written material produced during the process of implementing the project.

The project proceeds as follows: (a) joint seminars where the European partners present the material they have collected and where comparisons are then made and conclusions drawn; (b) representatives of pilot schools in partner countries visit schools in other partner countries for purposes of observation and study; and (c) the researchers' joint structured writing process. Working seminars are organized to enable researchers to assemble a corpus of shared material. By the end of 1996 the researchers have met and worked together in Finland and Scotland. The contents of the interim research report now published are mainly collaborative papers by the project partners.

Findings of the Survey Phase

European countries have their characteristic national systems of vocational education and training, within which the status of vocational education varies. An attempt is made here to capture the European dimension of vocational education by describing the peculiar characteristics of different strategies to improve the parity of esteem for initial vocational education. Shared concepts and themes, examined country by country and strategy by strategy, offer another road to an understanding and a definition of this diversity.

Esteem for and attraction of vocational education is first discussed in terms of the choices that students and their parents make between different educational pathways. Another approach focuses on how different ways to organize education, study programmes and curricula structure European upper secondary education and the qualifications to which they lead. Finally, the parity of esteem of upper secondary-level vocational education has been linked with the range of routes to further education that it opens and with the status and variety of the occupations and jobs for which it qualifies students.

Educational Reform Strategies to Increase the Parity of Esteem for Vocational Education and Training

Eight upper secondary education systems yield four hypothetical strategies for developing vocational education: (1) Vocational Enhancement, (2) Mutual Enrichment, (3) Linkages and (4) Unification.

Vocational Enhancement. This strategy emphasizes the distinctive nature of vocational education on the basis of its characteristic content. Because today's jobs require both general and vocational competence, vocational education also deliver academic knowledge and skills. The general instruction provided as part of vocational education must be developed so as to train educated professionals. The standard of vocational education and vocational curricula determines how students are able to progress from the vocational track to higher education. The strategy of Vocational Enhancement may be developed into a didactic linkage model of general and vocational education to serve as a basis for curriculum design. Esteem for vocational education is linked with the standard of the content and pedagogy of vocational education and training.

Mutual Enrichment. Vocational institutions and general secondary schools cooperate with the aim of giving students a broader range of choices and stimulating learning environments. The strategy brings different school forms closer through cooperation while preserving their distinctive character. The goal is also to develop open learning situations incorporating the strengths of both the vocational and the academic traditions. Representatives of this strategy seek to reinforce the shared features of both vocational and general schools. The interaction and cooperation between educational institutions gives students a varied range of choice. An increased margin of choice is also believed to increase esteem for vocational education and enhance the motivation of vocational students.

Linkages. Countries representing this strategy have made vocational and general education formally equal by linking both to a common qualification structure. Both general and vocational certificates guarantee university entrance qualifications, the equivalence of degrees and the possibility of changing from one educational pathway to another. Opening access to higher studies is perceived as a means of

preserving the attractiveness of vocational education. The increased attractiveness is also seen as a factor promoting employment among the young. Educational systems that traditionally fostered elitism by emphasizing academic studies attempt to make vocational education equal in status to general education by using this reform strategy.

Unification. Vocational and general education have merged into one another until they make up a uniform upper-secondary-level educational system. Curricula, too, have been integrated. Occupations and qualifications have been differentiated according to the students' general interests. It is believed that requiring all students to study certain common general subjects will provide students with equal opportunities to engage in further studies, a factor that determines the attractiveness of the different qualifications.

Defining, comparing and analysing European strategies casts light on the characteristic features of the upper secondary education systems of different countries. The following national factors affect esteem for and attraction of vocational education: the history of work and esteem for it, the link between occupations and social status, and labour market relations. Classifying the reform of a national education system as belonging to a specific strategy is as yet an open question. A country's educational system may display features from several strategies. In addition, national characteristics, shaped by such factors as the historical development and status of vocational education and labour market policy and relations make it difficult to classify reforms carried out in different countries under one common strategy.

Developmental Themes in Study Programmes and Curricula

Decisions and objectives involving upper secondary education policy are carried out using the developmental strategies charted by the project. School reforms and the effectiveness of the changes associated with them are linked with curriculum design and implementation and the structure of the study programmes constructed by the students. To implement strategies for vocational education reform the partners outlined such common themes in the development of curricula and study programmes as networking, flexibility of choices and qualifications, teacher training, cooperation among teachers and links between school and working life. Common themes of this kind are manifested in different ways in the educational reform processes and strategies of different countries. In addition to being characterized on a national level, the themes are also compared across different countries.

Analytic phase

The next phase of the project aims to assess, on the basis of the results of country comparisons, to what extent the strategies chosen for secondary education reform have improved the esteem accorded to vocational education and what are the preconditions of their success. Country comparisons will be tentatively used to outline

European strategies for reforms of the mutual relations between vocational and academic/general education,

models describing the goals of theoretical and practical instruction and of school-based and work-based instruction, and

how esteem for vocational education may be enhanced by means of study programmes, qualifications and teacher training and cooperation between local schools.

The project further aims to create learning links between researchers, administrative personnel and teachers and representatives of schools. It is hoped that the links will help to create new experimental and developmental projects and enrich already existing projects by developmental results and research findings contributed by the partners.

Funding

The Institute of Educational Research at the University of Jyväskylä is coordinating the survey and analysis project of the Post-16 Strategies Project, planned to last two years (1996 - 1997). Dr. Johanna Lasonen is leading the Project. EU has granted the project 275,000 ECUs (some 1.5 millions FIM) under Strand III.2.a of the Leonardo programme, covering international surveys and analyses of vocational education. In addition each country will obtain national funding and personnel resources to implement the project. Finland's national share is financed by the Ministry of Education. The project's total budget is ca. 600,000 ECUs (3.3 millions FIM).

Lasonen, Johanna (éditeur) (1996)

Le développement de l'enseignement des adolescents en Europe : Les stratégies de réforme du deuxième cycle scolaire destinées à revaloriser l'enseignement professionnel dans les systèmes éducatifs de huit pays européens (331 pages)

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Les buts assignés au projet

L'objectif du projet est d'examiner et de comparer dans les politiques d'enseignement en particulier les buts recherchés et les solutions proposées qui tendent à intégrer les formations et les enseignements de niveau professionnel et général, et à approcher l'enseignement accompli dans les lieux d'enseignement et de travail, afin d'améliorer l'image de l'enseignement professionnel. Les responsables du projet rassemblent, décrivent, comparent et analysent les stratégies utilisées, ainsi que les expériences et les résultats obtenus à partir des expériences réalisées au niveau du second cycle dans cinq pays-membres de l'Union Européenne et en Norvège. La collaboration entreprise avec les établissements-pilotes et les visites réalisées dans le cadre du projet permettent d'évaluer dans quelle mesure les objectifs fixés pour l'enseignement du second cycle et les stratégies qui s'y rapportent sont réalisés dans les établissements scolaires en ce qui concerne l'amélioration de l'attrait de l'enseignement professionnel. Le projet permet la création de réseaux de coopération aux niveaux national et européen entre les établissements, les enseignants, l'administration scolaire et les chercheurs. Dans le cadre du projet, les établissements scolaires peuvent également se créer des liens avec d'autres unités-pilotes européennes.

Le projet comprend deux phases : les rapports et les analyses. L'objectif de la première de ces phases est de déterminer les problèmes liés à l'attrait vers les écoles professionnelles. À l'aide des renseignements rassemblés dans le rapport réalisé, il sera tenté de répondre aux questions suivantes :

1. Quelle est la situation de l'enseignement professionnel de base au second cycle dans les systèmes scolaires des huit pays européens ?
2. Comment les stratégies de réforme de l'enseignement du second cycle sont-elles réalisées dans ces pays ?

Les coopérants au projet

Les associés, issus de six pays-membres de l'Union Européenne (Allemagne, Angleterre, Autriche, Écosse, Finlande, France et Suède) et de la Norvège, représentent huit systèmes différents d'enseignement. Les chercheurs représentent des établissements de recherche et diverses organisations européens : Post-16 Educational Center de Londres, Industriewissenschaftliches Institut (IWI) de Vienne, Institut für Berufs- und Erwachsenenbildungsforschung (IBE) de Linz, Högskolen I Agder de Kristiansand, Centre International d'Études Pédagogiques (CIEP) de Sèvres, Institut National de Recherche Pédagogique (INRP) de Paris, Skolverket de Lund, Institute Technik und Bildung (ITB) de Brême, Centre for Educational Sociology (CES) d'Édimbourg de Glasgow ainsi que Koulutuksen tutkimuslaitos (KTL) de Jyväskylä. De plus, le Conseiller d'éducation responsable des expériences scolaires au niveau des adolescents du Ministère Finlandais de l'Enseignement participe à la réalisation du projet "Post-16 Strategies".

Les coopérants au projet ont réalisé la recherche sur l'enseignement du second cycle aux niveaux national et international. Les partenaires de la Grande-Bretagne font parvenir leurs expériences basées sur les programmes d'enseignement sous forme de structure modulaire et sur les diplômes professionnels ainsi qu'à partir des principes selon lesquels le domaine professionnel et le domaine général s'intégreront dans les futurs projets, nommés "Unification" et "Higher Still" de rénovation du système scolaire. L'Autriche et l'Allemagne ont évalué leurs expériences concernant l'intégration des enseignements professionnel et général dans les lieux d'enseignement et de travail comme enseignement unifié dans les projets de réforme du système dualiste. La France analyse et apporte son expérience sous forme de matériaux de comparaison en ce qui concerne par exemple les diplômes universitaires français mettant en valeur les domaines techniques et professionnels, ainsi que le développement des méthodes pédagogiques qui tendent à cet objectif. En Norvège, les résultats obtenus concernant le développement de la réforme du second cycle de 1994 et l'enseignement formateur qui s'y attache ont été employés pour le projet. En Suède, le matériau de comparabilité concernant la réforme d'un enseignement unique fait apparaître en particulier le point de vue des programmes d'études tels que les étudiants les ont choisis. En Finlande, 16 communes ont mis en œuvre une expérience à grande échelle d'enseignement pour adolescents depuis 1991. Le programme quotidien des élèves des établissements professionnels et des lycées de ces communes inclut la possibilité de participer à l'enseignement dispensé dans chacun des deux types d'établissement en choisissant des cours à suivre dans les lycées, les établissements professionnels et également dans d'autres écoles de niveau second cycle de la commune. Une estimation est faite à partir des systèmes de références de chacune des huit différentes organisations scolaires nationales, estimation qui tend à préciser dans quelle mesure les divers projets de réforme permettent d'améliorer l'attrait et l'estime accordés à l'enseignement professionnel.

Méthodes utilisées

Les rapports et les analyses portent sur les stratégies de réforme de l'enseignement réalisées ou en cours de réalisation et dont l'objet est d'améliorer l'intérêt envers l'enseignement professionnel. Les matériaux au stade intermédiaire du projet rassemblent des documents existants au niveau national, des estimations d'experts et du matériel écrit pendant la période de mise en oeuvre du projet.

Les modes d'action concernant le projet sont les suivants : (a) des séminaires en commun au cours desquels les associés européens présentant le matériel qu'ils ont recueilli, matériel qui sera comparé et d'où l'on tirera des conclusions ; (b) des visites d'observation et d'études de la part des représentants des écoles-pilotes des pays présents dans les écoles des partenaires ; et (c) un processus de rédaction commun par sa structure chez les chercheurs. Des séminaires de travail sont organisés pour les chercheurs dans le but de rassembler un matériel commun. Jusqu'à fin 1996, les chercheurs se sont rassemblés dans des groupes de travail en Finlande et en Écosse. Le contenu du rapport intermédiaire se compose essentiellement d'articles écrits en commun par les chercheurs.

Résultats obtenus au niveau du rapport intermédiaire

Les pays européens possèdent des systèmes d'éducation et d'enseignement professionnel différant au niveau national et dans lesquels la position de l'enseignement professionnel varie. Dans le but d'élargir ces données à une dimension européenne, les différences existant dans les divers pays et leur système éducatif sont décrites et comparées. Des concepts et des thèmes communs analysés par pays et par stratégie permettent de parvenir à saisir et à définir ces différences.

Le respect et l'attrait envers l'enseignement professionnel sont examinés comme la conséquence du comportement des élèves et de leurs parents au moment du choix effectué entre les filières d'enseignement. La seconde méthode d'analyse permet de voir comment les diverses solutions proposées dans les planifications concernant l'éducation, les programmes d'enseignement et l'enseignement en général mettent sur pied l'enseignement du second cycle au niveau européen et en conséquence le système de diplômes à obtenir. L'attraction vers l'enseignement professionnel du second cycle est en rapport avec les garanties offertes aux citoyens concernant les possibilités d'études de perfectionnement et la qualité et la polyvalence de la profession et du travail envisageables.

Les stratégies de réforme de l'enseignement renforcent l'attrait envers l'éducation et l'enseignement professionnels

Quatre stratégies de développement hypothétiques de l'enseignement professionnel se dégagent des huit systèmes d'éducation du second cycle : (1) renforcement du concept de métier, (2) l'enrichissement dans la mutualité des enseignements professionnel et général, (3) la revalorisation des diplômes professionnels afin de les rendre comparables aux diplômes de l'enseignement général, et (4) la fusion des enseignements professionnel et général.

Le renforcement de l'image professionnelle (Vocational Enhancement). Cette stratégie a pour objectif de mettre en valeur le caractère de l'enseignement professionnel à partir de ses particularités internes. Dans la mesure où le travail exige de nos jours une connaissance à la fois générale et professionnelle, il faut que l'enseignement professionnel ait les moyens d'enseigner le savoir-faire et la connaissance académiques. Le développement d'un enseignement académique à l'intérieur du cursus de l'enseignement professionnel est essentiel pour la formation professionnelle. C'est de la qualité de l'enseignement professionnel et de sa planification que dépendent les possibilités offertes aux élèves de s'engager dans les établissements d'enseignement supérieur. La stratégie du renforcement de l'image professionnelle doit conduire à un modèle didactique liant les enseignements professionnel et didactique et qui servira de base à l'élaboration d'une planification à un niveau global. La mise en valeur de l'enseignement professionnel est en rapport avec la qualité du contenu de l'éducation et de l'enseignement professionnels ainsi que des méthodes pédagogiques qui y sont appliquées.

Enrichissement mutuel des enseignements professionnel et général (Mutual Enrichment). La collaboration entre les établissements professionnels et les lycées ont pour objectif de créer des possibilités de choix et des environnements stimulants dont les élèves pourront bénéficier. Cette stratégie rapproche les modes d'enseignement par une collaboration tout en conservant pourtant les particularités de chacun. Le but est également de développer des situations ouvertes qui utiliseront les points forts des traditions académique et professionnelle. Le renforcement des traits communs existant entre les formes d'enseignement professionnel et général fait également partie de cette stratégie. La réciprocité et la collaboration entre les établissements a également pour résultat de créer une polyvalence dans les possibilités de choix offertes aux élèves, ce qui devait également avoir pour conséquence une amélioration dans le degré d'estime et de motivation envers l'enseignement professionnel.

La révalorisation des diplômes professionnels afin de les rendre comparables aux diplômes de l'enseignement général (Linkages). Les pays représentant cette stratégie ont développé un statut formel d'égalité entre les enseignements professionnel et général en les rattachant à un système commun de diplômes. Ceci garantit à chacun des possibilités d'études de perfectionnement, d'équivalence dans les études et de passage à l'autre système. L'objectif est de tenter de conserver l'intérêt envers l'enseignement professionnel par l'ouverture en direction de l'enseignement supérieur. Cet intérêt est considéré comme un trait positif en ce qui concerne l'emploi des jeunes. À l'aide de cette stratégie de rénovation, les systèmes éducatifs, qui encourageaient traditionnellement l'élitisme et l'académisme, tendent à donner à l'enseignement professionnel une position comparable à celle obtenue par l'enseignement général.

La fusion des enseignements professionnel et général (Unification). Les enseignements dispensés dans les filières professionnelle et générales se sont fondus l'un dans l'autre au point qu'ils forment un système unifié dans l'enseignement du second cycle. Les programmes présentent également des ensembles intégrés. Les métiers et les diplômes suivent l'orientation choisie par les élèves. La possibilité offerte à chacun de participer à certains cours généraux doit fournir la possibilité de suivre des études de perfectionnement, ce qui est la base même de l'intérêt ressenti envers les diplômes.

La caractérisation, la comparaison et l'analyse des stratégies européennes met en valeur les traits particuliers inhérents à l'enseignement professionnel du second cycle. L'estime accordée à cet enseignement tout comme l'attrait qui en résulte dépendent des facteurs suivants : l'histoire du travail et le respect qui lui est dû, le lien entre les métiers et les classes sociales et les conditions du marché du travail. La

question de la classification de la réforme de l'enseignement sur le plan national en des stratégies reconnues reste ouverte. Les traits de plusieurs stratégies peuvent en effet se dégager dans le système d'enseignement d'un seul pays. De plus, les traits particuliers à certains pays, ceux qui sont par exemple issus de la situation et du développement historiques de l'enseignement professionnel ainsi que de la politique et des relations du marché du travail, compliquent la réalisation d'une classification des projets de réformes de divers pays dans le cadre d'une seule stratégie commune.

Les thèmes de développement des programmes d'enseignement et de la planification de l'éducation

Les décisions et les objectifs de la politique d'enseignement du second cycle sont réalisés à l'aide de stratégies de développement recensées. La réforme de l'enseignement et l'efficacité des transformations qui s'y rattachent sont liées au développement et à la réalisation des projets ainsi qu'à la structure des programmes choisis par les élèves. Pour aider à la mise en exécution des stratégies de réforme de l'enseignement professionnel, des thèmes essentiels communs de développement des projets et des programmes ont été esquissés : la mise en réseaux, la flexibilité dans les options et les diplômes, la formation des enseignants, la collaboration entre enseignants ainsi que les liens entre l'école et la vie professionnelle. Des thèmes communs apparaissent sous diverses formes dans les processus de rénovation de l'enseignement de divers pays. En plus de la caractérisation nationale, les thèmes sont comparés entre les divers pays.

Stade envisagé de l'analyse

Le rôle du prochain stade du projet est d'estimer sur la base de résultats comparables entre pays comment et dans quelles conditions et/ou dans quelle mesure les stratégies choisies de la réforme d'enseignement du second cycle améliorent/ ont amélioré l'image de l'enseignement professionnel. Les résultats des comparaisons entre les pays permettra d'esquisser

- (1) des stratégies à l'échelle européenne pour la réforme des liens existant entre les enseignements professionnel et général,
- (2) des modèles pour la réalisation des objectifs dans l'enseignement théorique et pratique ainsi que dans l'enseignement scolaire et professionnel, et
- (3) l'amélioration de l'image de l'école professionnelle au niveau des programmes, des diplômes, de la formation des enseignants et par la collaboration entre établissements voisins.

Le projet a également pour ambition de créer des liens entre les chercheurs, les fonctionnaires de l'administration, les représentants des établissements et les enseignants. Le but assigné à ces liens est de mettre sur pied de nouveaux projets-pilotes, de nouveaux projets de développement et/ou de faire profiter les partenaires actuels des résultats obtenus concernant le développement et la recherche.

Financement du projet

Le Centre des recherches pédagogiques de l'université de Jyväskylä a coordonné l'arrangement et l'analyse du projet "Post-16 Strategies", d'une durée de deux ans (1996-1997). Une somme de 275,000 écus (environ 1.5 million de marks) a été accordée par la section (Strand III.2.a) du programme Leonardo dans le cadre de l'Union Européenne : cette section traite des rapports et des analyses sur le plan international et concernant la formation professionnelle. En outre, chaque pays assure une part du financement et les ressources en personnel pour la réalisation du projet. Le Ministère de l'Éducation fournit la part finlandaise accordée au projet. Le budget total de ce projet s'élève à environ 600,000 écus (3.3 millions de marks).

Lasonen, Johanna (Verfasserin) (1996)

Die Entwicklung der Sekundarstufe II in Europa: Die Schulreformstrategien zur Hebung des Status beruflicher Ausbildung (331 Paginas).

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Aufgaben des Projekts

Dieses Projekt hat sich zum Ziel gesetzt, sowohl die ausbildungspolitischen Ziele und Entscheidungen zu analysieren und zu vergleichen, durch die eine Intergration der beruflichen und allgemeinbildenden Ausbildung geschehen soll, als auch das schulische und berufliche Lernen einander näher zu bringen, um den Status der beruflichen Ausbildung zu heben. Die Forscher des Projekts sammeln, beschreiben, vergleichen und analysieren die Entwicklungsstrategien der Sekundarstufe II in 6 Mitgliedsländern der EU und in Norwegen, sowie auch die Erfahrungen und Ergebnisse der Ausbildungsversuche. Durch die Zusammenarbeit mit diesen Schulen und durch Hospitationen soll ausgewertet werden, inwieweit die Reformziele und -strategien des jeweiligen anderen Landes in den Schulen zur Verstärkung der Anziehungskraft beruflicher Ausbildung verwirklicht werden. Das Projekt schafft sowohl nationale als auch europäische Kooperationsnetzwerke zwischen Schulen, Lehrern, der Verwaltung des Schulwesens und auch den Forschern. Die Schulen können im Rahmen des Projekts Kontakte zu anderen Versuchsschulen knüpfen.

Das Projekt wird in zwei Phasen durchgeführt: Bestandsaufnahme und Analyse. Das Ziel der ersten Phase ist es, die Probleme der Attraktivität der beruflichen Ausbildung zu erläutern. Die Erkenntnisse in dem vorliegenden Bericht sollen auf folgende Fragen Antworten geben:

1. Welchen Status der Berufsausbildung gibt es in der Sekundarstufe II in den acht europäischen Schulsystemen?
2. Welche Reformstrategien werden in diesen Ländern in der Sekundarstufe II eingesetzt?

Die Partner

Die Partner kommen aus sechs EU-Mitgliedsländern und aus Norwegen und vertreten acht verschiedene Schulsysteme (England, Schottland, Österreich, Frankreich, Norwegen, Schweden, Deutschland und Finnland). Die Forscher sind Vertreter leitender europäischer Forschungsinstitute und anderer Organisationen:

Post-16 Education Centre in London, Industriewissenschaftliches Institut (IWI) in Wien, Institut für Berufs- und Erwachsenenbildungsforschung (IBE) in Linz, Högskolen i Agder in Kristianstad, Centre International d'Études Pédagogiques (CIEP) in Sèvres, Institut National de Recherche Pédagogique (INRP) in Paris, Skolverket in Lund, Institut Technik und Bildung (ITB) in Bremen, Centre for Educational Sociology in Edinburgh, Scottish Vocational Education Council (SCOTVEC) in Glasgow und Koulutuksen tutkimuslaitos (KTL) in Jyväskylä. Ferner arbeitet der für den Ausbildungsversuch der Sekundarstufe II zuständige Rat des finnischen Zentralamtes für Unterrichtswesen in dem Projekt "Post-16-Strategies" mit.

Die Partner haben Untersuchungen der Ausbildung in der Sekundarstufe II sowohl im nationalen als auch im internationalen Rahmen durchgeführt. Die britischen Partner kümmern sich um die Erfahrungen mit dem Curriculum und die beruflichen Abschlüsse mit modularischem Aufbau sowie um die Prinzipien, wie sich das Berufliche und das Allgemeinbildende in ihren künftigen Schulreformbestrebungen namens "Unification" und "Higher Still" integrieren läßt.

Österreich und Deutschland werten ihre Erfahrungen bei der Integration beruflicher und allgemeinbildender Ausbildung in der Schule und im Beruf durch die Zusammenlegung des Lernens in den Erneuerungsprojekten des dualen Systems aus. Frankreich trennt und stellt das Material zum Vergleich, das über das technologie- bzw. berufsorientierte Abitur vorliegt, sowie Erkenntnisse über die pädagogischen Entwicklungen bei dem für diesen Abschluß vorbereitenden Unterricht dar.

Norwegen wird die Ergebnisse der Schulreform 1994 und der damit zusammenhängenden Lehrerbildungsreform zur Verfügung stellen. Aus der schwedischen Reform der Gesamtschule ergibt sich vergleichbares Material aus der von den Schülern getroffenen Wahl von Ausbildungsprogrammen. In Finnland wird seit 1991 ein umfangreicher Versuch der Gesamtausbildung in der Sekundarstufe II an sechzehn Orten durchgeführt. In diesen Orten haben die Schüler der gymnasialen Oberstufe und der Berufsschulen in ihrem Schulalltag die Möglichkeit, an dem Unterricht dieser beiden Schultypen teilzunehmen, indem sie Kurse der gymnasialen Oberstufe, der Berufsschule sowie anderer Schulen der Sekundarstufe II am Ort wählen.

In dem Rahmen des jeweiligen nationalen Bildungssystems wird eine Auswertung vorgenommen, inwieweit die verschiedenen Reformvorhaben die berufliche Ausbildung lukrativer erscheinen lassen und deren Status heben.

Bestandsaufnahme

Methoden

Die Erkundungen und Analysen werden bei den eingesetzten oder noch angewendeten Schulreformstrategien durchgeführt, die als Ziel die Stärkung der Anziehungskraft der Berufsausbildung haben. Die Schriften der Zwischenphase des Projektes umfassen die bestehenden nationalen Dokumente, Sachverständigenurteile und das Material, das in dem Verwirklichungsprozess des Projekts entsteht.

Die Vorgehensweisen sind wie folgt: (a) gemeinsame Seminare, in denen die europäischen Partner ihren gesammelten Stoff vorlegen, der verglichen werden soll und aus denen Schlüsse gezogen werden; (b) Die Vertreter der Versuchsschulen in den Partnerländern hospitieren gegenseitig in ihren Schulen; sowie (c) ein strukturierter gemeinsamer schriftlicher Kommunikationsprozeß der Forscher. Um

den gemeinsamen Stoff zusammenzubringen, werden Seminare für die Forscher veranstaltet. Bis Ende 1996 haben die Forscher in Finnland und in Schottland ein Seminar veranstaltet. Der herauszugebende inhaltliche Zwischenbericht besteht aus in Zusammenarbeit abgefaßten Artikeln der Partner.

Die Ergebnisse

In den europäischen Ländern bestehen nationale Systeme für berufliche Ausbildung und -schulung, innerhalb von denen der Status der beruflichen Ausbildung variierend einzuschätzen ist. Nach einer europäischen Dimension wird gesucht, indem man die Unterschiede dieser Länder und ihrer Schulsysteme beschreibt und vergleicht. Um die Unterschiede zu verstehen, werden gemeinsame Begriffe und Themen ermittelt, die bei dem jeweiligen Land und der jeweiligen Strategie genauer betrachtet werden.

Der Status und die Anziehungskraft der beruflichen Ausbildung wird als Folge des Verhaltens der Schüler und ihrer Eltern bei der Wahl von Ausbildungswegen verstanden. Bei einer anderen Betrachtungsweise soll skizziert werden, wie die verschiedenen Schulungs-, Ausbildungsprogramm- und Curriculumentscheidungen die europäische Sekundarstufen II - Ausbildung und die entsprechenden Abschlüsse gliedern. Die Anziehungskraft der beruflichen Ausbildung in der Sekundarstufe II hängt damit zusammen, was für weitere Ausbildungsmöglichkeiten sie eröffnet, und inwieweit sie einen angesehenen und vielseitigen Beruf dem Bürger gewährleistet.

Die die Attraktivität der beruflichen Ausbildung und - Schulung stärkenden Reformstrategien

In den acht Sekundarstufensystemen sind die vier hypothetischen Entwicklungsstrategien der beruflichen Ausbildung zu erkennen: (1) Die Stärkung der Beruflichkeit (2) die gegenseitige Bereicherung der beruflichen und allgemeinbildenden Erziehung, (3) die Gleichsetzung der beruflichen Abschlüsse mit denen der allgemeinbildenden Schule sowie (4) die Verschmelzung der beruflichen und allgemeinbildenden Schule.

Stärken der Beruflichkeit (Vocational Enhancement). Bei dieser Strategie wird der Zug des Beruflichen von seiner besonderen inhaltlichen Qualität aus besonders verstärkt. Weil die beruflichen Aufgaben heute sowohl Allgemeinwissen als auch berufliches Können verlangen, soll durch den beruflichen Unterricht auch akademisches Wissen und Können vermittelt werden. Die Entwicklung von allgemeinbildendem Unterricht, der in den beruflichen Lehrgängen stattfindet, ist unabdingbar, um gebildete Professionelle auszubilden.

Von der Qualität der beruflichen Ausbildung und deren Curriculum hängt es ab, wie die Schüler über den beruflichen Ausbildungsweg auf die Hochschulebene weitergelangen. Aus der Strategie zur Stärkung der Beruflichkeit läßt sich ein didaktisches Verbindungsmodell als Grundlage der Lehrpläne entwickeln. Die Anerkennung hängt mit der inhaltlichen und pädagogischen Qualität der beruflichen Ausbildung und -schulung zusammen.

Die gegenseitige Bereicherung (Mutual Enrichment). Durch Zusammenarbeit von gymnasialen Oberstufen und beruflichen Lehranstalten wird versucht, den Schülern Wahlmöglichkeiten und eine attraktive Lernumgebungen zu schaffen. Diese Strategie

bringt die Schulungsformen einander näher, bewahrt aber ihre Selbstständigkeit. Man zielt auch auf offene Lerngelegenheiten, bei denen die Stärken der sowohl handwerklichen als auch der akademischen Tradition ausgenutzt werden. Die gemeinsamen Züge der beruflichen und akademischen Ausbildung werden hervorgehoben. Durch Zusammenarbeit und Austausch wird den Schülern ein breit gefächertes Angebot bereitgestellt, was sich wiederum im erhöhten Status der beruflichen Schulen und Motivation der Schüler widerspiegelt.

Die Gleichsetzung der beruflichen Abschlüsse mit denen der allgemeinbildenden Schule (Linkages). In den Ländern, die diese Strategie übernommen haben, hat man der beruflichen und der allgemeinbildenden Ausbildung den gleichen formellen Status gegeben, indem man beide in einem einheitlichen Abschlußsystem verbunden hat. Beide Abschlüsse gewährleisteten die Möglichkeiten zum weiteren Studium, die Ersetzbarkeit der Leistungen sowie den Übergang von einem Ausbildungsweg zum anderen. Die Attraktivität der beruflichen Ausbildung wird dadurch aufrecht erhalten, daß der Weg zum Hochschulstudium geöffnet wird. Schulsysteme, die üblicherweise durch Betonung des Akademischen das elitäre Denken fördern, bemühen sich um die Gleichsetzung der beruflichen Ausbildung mit der allgemeinen Schulausbildung.

Die Verschmelzung der beruflichen und allgemeinbildenden Schule (Unification). Die berufliche und allgemeine schulische Ausbildung sind in dem Maße miteinander verschmolzen, so daß sie ein einheitliches Schulsystem der Sekundarstufe II bilden. Die Lehrpläne bestehen aus integrierten Einheiten. Die Zielberufe und die Abschlüsse sind nach der Fächerkombinationen der Schüler differenziert. Die vorausgesetzten allgemeinbildenden Fächer schaffen gleichwertige Möglichkeiten zum Aufbaustudium, worauf die Attraktivität der Abschlüsse basiert.

Das Definieren, das Vergleichen und die Analyse der europäischen Strategien hebt die Besonderheiten der beruflichen Ausbildung in der Sekundarstufe II in den verschiedenen Ländern hervor. Die folgenden nationalen Faktoren spielen bei dem Ansehen und der Attraktivität eine Rolle: die Geschichte der Arbeit und deren Einschätzung, die Verbindung zwischen dem Beruf und dem sozialen Status und die Bedingungen auf dem Arbeitsmarkt. Die Klassifizierung eines nationalen Systems als eine gewisse Strategie ist noch offen. In dem System eines Landes lassen sich Charakteristika mehrerer Strategien wiederfinden. Dazu kommen noch nationale besondere Merkmale, wie zum Beispiel die Tradition und der Status der beruflichen Ausbildung sowie die Tarifpolitik und -verhältnisse, die die Strategien modifizieren und die Klassifizierung als gemeinsame Strategie erschweren.

Die Entwicklungsthemen der Ausbildungsgänge und Lehrpläne

Die schulpolitischen Entscheidungen der Sekundarstufe II werden anhand der aufgestellten Strategien getroffen. Die Schulreform und die Effizienz der damit verbundenen Änderungen hängt mit der Entwicklung und Durchführung der Lehrpläne und auch mit der Struktur der von den Schülern gewählten Fächerkombinationen zusammen. Zur Verwirklichung der Reformstrategien der beruflichen Ausbildung wurden gemeinsame zentrale Entwicklungsthemen der Curricula und Ausbildungsprogramme erarbeitet. Diese sind die Vernetzung, die Flexibilität der Wahlmöglichkeiten und Abschlüsse, die Lehrerbildung, Zusammenarbeit der Lehrer sowie Kontakte der Schulen zur Arbeitswelt. Die gemeinsamen Themen kommen in den verschiedenen Ländern bei den Reformbestrebungen unterschiedlich zum Vorschein. Neben der nationalen Beschreibung werden die Themen miteinander verglichen.

Die Analyse

Die nächste Phase des Projektes zielt darauf, aufgrund der Ergebnisse des Vergleichs der Ländersysteme zu schätzen, wie und unter welchen Voraussetzungen und/oder inwieweit die gewählten Reformstrategien der Ausbildung in der Sekundarstufe II dem Status der beruflichen Ausbildung mehr Prestige geben/ gegeben haben. Als Ergebnis der Vergleiche der Länder entstehen Skizzen von

- (1) europäischen Strategien zur Reform der Wechselwirkung der beruflichen und allgemeinbildenden Ausbildung
- (2) Modelle von den Unterrichtszielen des praktischen und theoretischen Unterrichts sowie des schulischen Werkunterrichts und
- (3) Erhöhung des Ansehens der Berufsausbildung durch Ausbildungsprogramme, Abschlüsse, sowie Lehrerausbildung und Zusammenarbeit der lokalen Schulen

Das Projekt versucht auch, Lernverbindungen unter Forschern, Verwaltungspersonal und den Vertretern verschiedener Schulen sowie Lehrern herzustellen. Ziel dieser Kontakte ist es, neue Versuchs- und Entwicklungsprojekte einzurichten und/oder die bestehenden mit den Entwicklungs- und Forschungsergebnissen von den Partnern zu bereichern.

Finanzierung des Projekts

Koulutuksen tutkimuslaitos in Jyväskylä koordiniert das "Post-16 Strategies"-Vorhaben zur Bestandsaufnahme und Analyse, das zwei Jahre dauern soll (1996-1997). Für die Durchführung des Projekts wurden 275,000 ECU (rund 1.5 Mio FIM) aus einem Teilbereich (Strand III.2.a) des Leonardo -Programms, das sich mit der internationalen Bestandsaufnahme und Analyse der beruflichen Ausbildung befaßt, gewährt; Darüber-hinaus sichert jedes Land einen nationalen Finanzierungsbeitrag und den personellen Aufwand zur Durchführung des Projekts. Das Unterrichtsministerium hält die Mittel für Finnland bereit. Der Gesamtetat des Projekts beträgt ca. 600,000 ECU (3.3 Mio FIM).

Lasonen, Johanna (toim.) (1996).

Nuorisoasteen kehittäminen Euroopassa: Toisen asteen koulunuudistusstrategiat ammatillisen koulutuksen arvostamisen lisäämiseksi kahdeksassa eurooppalaisessa koulutusjärjestelmässä (331 sivua)

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Projektin tehtävät

Hankkeen tavoitteena on eritellä ja vertailla koulutuspoliittisia tavoitteita ja ratkaisuja, joilla pyritään integroimaan ammatillista ja yleissivistävää koulutusta ja kasvatusta sekä lähentämään koulussa ja työssä tapahtuvaa oppimista ammattikoulutuksen arvostuksen parantamiseksi. Projektin tutkijat kokoavat, kuvailevat, vertailevat ja analysoivat kuuden EU:n jäsenmaan ja Norjan toisen asteen kehittämisstrategioita, koulutuskokeilujen kokemuksia ja tuloksia. Kokeilukoulujen kanssa tehtävän yhteistyön ja opintovierailujen avulla pyritään arvioimaan, missä määrin kunkin maan toisen asteen uudistamistavoitteet ja -strategiat toteutuvat oppilaitoksissa ammattikoulutuksen vetovoiman lisäämiseksi. Projektissa luodaan kansallisia ja eurooppalaisia yhteistyöverkostoja koulujen, opettajien, koulunhallinnon ja tutkijoiden kesken. Koulut voivat luoda yhteyksiä muiden eurooppalaisten kokeiluyksiköiden kanssa projektin puitteissa.

Projekti toteutetaan kahdessa vaiheessa: selvityksinä ja analyysinä. Ensimmäisen eli selvitysvaiheen tavoitteena on hahmotella ammatillisen koulutuksen vetovoimaan liittyviä ongelmia. Käsillä olevaan raporttiin kerätyn aineiston avulla pyritään vastaamaan seuraaviin kysymyksiin:

1. Mikä on toisen asteen ammatillisen peruskoulutuksen asema kahdeksassa eurooppalaisessa koulutusjärjestelmässä?
2. Millaisia toisen asteen koulunuudistamisstrategioita toteutetaan näissä maissa?

Yhteistyökumppanit

Partnerit ovat kuudesta EU:n jäsenmaasta ja Norjasta, jotka edustavat kahdeksaa erilaista koulutusjärjestelmää (Englanti, Skotlanti, Itävalta, Ranska, Ruotsi, Saksa, Norja ja Suomi). Tutkijat edustavat johtavia eurooppalaisia tutkimuslaitoksia ja muita organisaatioita: Post-16 Education Centre Lontoosta, Industriewissenschaftliches Institut (IWI) Wienistä, Institut für Berufs- und Erwachsenenbildungsforschung (IBE) Linzistä, Högskolen i Agder Kristiansandista (opettajankoulutuslaitos), Centre International d'Études Pédagogiques (CIEP) Sèvresistä, Institut National de Recherche

Pédagogique (INRP) Pariisista, Skolverket Lundista, Institute Technik und Bildung (ITB) Bremenistä, Centre for Educational Sociology (CES) Edinburghista, Scottish Vocational Education Council (SCOTVEC) Glasgowsta sekä Koulutuksen tutkimuslaitos (KTL) Jyväskylästä. Lisäksi Suomen opetushallituksen nuorisoasteen koulutuskokeilusta vastaava opetusneuvos on mukana "Post-16 Strategies" -projektin toteuttamisessa.

Yhteistyökumppanit ovat toteuttaneet toisen asteen koulutuksen tutkimusta kansallisella ja kansainvälisellä tasolla. Ison Britannian partnerit välittävät kokemuksensa modulierakenteisista opetussuunnitelmista ja ammatillisista tutkinnoista sekä niistä periaatteista, miten ammatillinen ja yleissivistävä integroituu heidän koulunsa tulevaisuudistamispyrkimyksissä nimeltään "Unification" ja "Higher Still". Itävalta ja Saksa arvioivat kokemuksiaan ammatillisen ja yleissivistävän koulutuksen integroinnista koulussa ja työssä oppimisen yhdistämisenä dualijärjestelmän uudistamisprojekteissa. Ranska erittelee ja tuo kokemuksensa vertailuaineistoksi mm. ranskalaisesta teknologis- ja ammatillisesti painotteisista ylioppilastutkinnoista sekä niihin tähtäävän opetuksen pedagogisista kehittelyistä. Norjan toisen asteen koulunuudistuksen vuodelta 1994 ja siihen liittyvän opettajankoulutuksen kehittämistulokset saadaan projektin käyttöön. Ruotsin yhtenäiskoulun uudistuksesta vertailuaineisto välittyy erityisesti opiskelijoiden valitsemien opinto-ohjelmien näkökulmasta. Suomessa 16 paikkakunnalla on ollut käynnissä laajamittainen nuorisoasteen koulutuskokeilu vuodesta 1991 lähtien. Näillä paikkakunnilla lukioiden ja ammattioppilaitosten opiskelijoiden arkipäivään sisältyy mahdollisuus osallistua kummankin oppilaitostyyppin opetukseen valitsemalla kursseja lukioista, ammattioppilaitoksista ja myös muista paikkakunnan nuorisoasteen kouluista. Kunkin kahdeksan eri kansallisen koulutusjärjestelmän viitekehyksessä arvioidaan, missä määrin erilaiset uudistushankkeet lisäävät ammatillisen koulutuksen vetovoimaa ja arvostusta.

Selvitysmenetelmät

Selvitykset ja analyysit kohdistuvat toteutettuihin tai käynnissä oleviin koulunuudistusstrategioihin, joiden mahdollisena tuloksena on ammattikoulutuksen vetovoiman lisääminen. Projektin välivaiheen aineistot koostuvat olemassa olevista kansallisista dokumenteista, asiantuntija-arvioista ja projektin toteuttamisprosessin aikana tuotetusta kirjallisesta materiaalista.

Projektin toimintatavat ovat seuraavat: (a) yhteiset seminaarit, joissa eurooppalaiset yhteistyökumppanit esittelevät keräämäänsä aineistoa, jota vertaillaan ja josta tehdään johtopäätöksiä; (b) partnerimaiden kokeilukoulujen edustajat tekevät tarkkailu- ja opintovierailuja toistensa kouluihin; sekä (c) tutkijoiden yhteinen strukturoitu kirjoittamisprosessi. Yhteisen aineiston kokoamiseksi järjestetään tutkijoiden työseminaareja. Vuoden 1996 loppuun mennessä tutkijat ovat kokoontuneet työskentelemään Suomessa ja Skotlannissa. Julkaistava sisällöllinen väliraportti koostuu pääasiassa tutkijoiden yhteisistä artikkeleista.

Selvitysvaiheen tulokset

Euroopan mailla on kansallisesti poikkeavat ammattikasvatuksen ja -koulutuksen järjestelmät, joiden sisällä ammattikoulutuksen asema vaihtelee. Eurooppalaista ulottuvuutta jäljitetään eri maiden ja niiden koulutusjärjestelmien erilaisuutta kuvaten ja vertaillen. Erilaisuuden ymmärtämiseksi ja määrittelemiseksi etsitään myös yhteisiä käsitteitä ja teemoja, joita tarkastellaan maittain ja strategioittaan.

Ammattikoulutuksen arvostusta ja vetovoimaa pohditaan opiskelijoiden ja heidän vanhempiensa koulutusväyliä valintakäyttäytymisen seurauksina. Toisessa tarkastelutavassa hahmotetaan, miten erilaiset koulutus- ja opinto-ohjelma- sekä opetussuunnitelmaratkaisut jäsentävät eurooppalaista toisen asteen koulutusta ja sen tuloksena saatavia tutkintoja. Toisen asteen ammatillisen koulutuksen vetovoima on ollut yhteydessä siihen, millaisen jatkokoulutusväylän sekä miten arvostetun ja monipuolisen ammatin ja työn se takaa kansalaiselle.

Ammattikasvatuksen ja -koulutuksen vetovoimaa vahvistavat koulunuudistusstrategiat

Kahdeksasta toisen asteen koulutusjärjestelmästä erottuu neljä hypoteettista ammatillisen koulutuksen kehittämisstrategiaa: (1) ammatillisuuden vahvistaminen, (2) ammatillisen ja yleissivistävän kasvatuksen vastavuoroinen rikastaminen, (3) ammatillisten tutkintojen liittäminen samanarvoisiksi yleissivistävien tutkintojen rinnalle, sekä (4) ammatillisen ja yleissivistävän koulutuksen yhteen sulautuminen.

Ammatillisuuden vahvistaminen (Vocational Enhancement). Strategiassa korostetaan ammatillisen opetuksen luonnetta sen sisällöllisestä ominaislaadusta käsin. Koska nykyajan työtehtävät vaativat sekä yleissivistävää että ammatillista osaamista, ammatillisen opetuksen kautta on pystyttävä opettamaan akateemisia taitoja ja tietoja. Ammattikoulutukseen sisältyvän yleissivistävän opetuksen kehittäminen on välttämätöntä sivistyneen ammattilaisen kasvattamiseksi. Ammattikoulutuksen ja sen opetussuunnitelmien laadusta riippuu, miten opiskelijat voivat edetä ammatilliselta väylältä korkea-asteen oppilaitoksiin. Ammatillisuuden vahvistamisstrategiasta on kehitettävissä yleissivistävän ja ammatillisen oppimisen didaktinen sidosmalli opetussuunnitelmien laatimisen perustaksi. Ammattikoulutuksen arvostus on yhteydessä ammattikasvatuksen ja -opetuksen sisällölliseen ja pedagogiseen laatuun.

Ammatillisen ja yleissivistävän kasvatuksen vastavuoroinen rikastaminen (Mutual Enrichment). Ammatillisten oppilaitosten ja lukioiden yhteistyön myötä pyritään luomaan opiskelijoille valintamahdollisuuksia ja virikkeellisiä oppimisympäristöjä. Strategia lähentää koulutusmuotoja yhteistyön kautta säilyttäen kuitenkin niiden erillisyyden. Tavoitteena on myös kehittää avoimia oppimistilanteita, jossa hyödynnetään sekä ammatillisen että akateemisen perinteen vahvoja puolia. Sekä ammatillisen että yleissivistävän koulumuodon yhteisiä piirteitä pyritään vahvistamaan. Oppilaitosten vuorovaikutuksen ja yhteistyön tuloksena luodaan opiskelijoille monipuoliset valintamahdollisuudet, minkä uskotaan myös lisäävän ammatillisen koulutuksen arvostusta ja opiskelumotivaatiota.

Ammatillisten tutkintojen liittäminen samanarvoisiksi yleissivistävien tutkintojen rinnalle (Linkages). Strategiaa edustavissa maissa on kehitetty ammatilliselle ja yleissivistävälle koulutukselle tasavertainen muodollinen status liittämällä molemmat yhteiseen tutkintojärjestelmään. Molemmat tutkinnot takaavat jatko-opintokelpoisuuden, opintojen korvattavuuden ja koulutusväylältä toiselle siirtymisen. Ammatillisen koulutuksen vetovoima pyritään säilyttämään avaamalla väylä korkea-asteen opintoihin.

Vetovoimaa pidetään nuorten työllisyyttä edistävänä asiana. Koulutusjärjestelmät, jotka perinteisesti edistivät elitismää akateemisella painotuksella, pyrkivät tällä uudistusstrategialla saamaan ammatillisen koulutuksen tasavertaiseen asemaan yleissivistävän koulutuksen rinnalle.

Ammatillisen ja yleissivistävän koulutuksen yhdistyminen (Unification). Ammatillinen ja yleissivistävä koulutus ovat sulautuneet yhteen siinä määrin, että ne muodostavat yhtenäisen toisen asteen koulutusjärjestelmän. Opetussuunnitelmat myös muodostavat integroituja kokonaisuuksia. Koulutusammatit ja tutkinnot ovat eriytyneet opiskelijoiden pääsuuntausten mukaan. Kaikilta opiskelijoilta tiettyjen samojen yleissivistävien aineiden opiskelun uskotaan luovan tasavertaiset jatko-opinto mahdollisuudet, mihin eri tutkintojen vetovoima perustuu.

Eurooppalaisten strategioiden määrittely, vertaaminen ja analysointi valaisee eri maiden toisen asteen ammattikoulutuksen erityispiirteitä. Ammattikoulutuksen arvostukseen ja vetovoimaan vaikuttavat seuraavat kansalliset tekijät: työn historia ja sen arvostus, ammattien yhteys sosiaaliluokitukseen ja työmarkkinasuhteet. Kansallisen koulutusjärjestelmän reformin luokittelu tiettyyn strategiaan kuuluvaksi on vielä avoin kysymys. Yhden maan reformissa voidaan havaita usean strategian piirteitä. Lisäksi kansalliset erityispiirteet, joita esimerkiksi ammatillisen koulutuksen historiallinen kehitys ja asema sekä työmarkkinapolitiikka ja -suhteet muovaavat, vaikeuttavat luokittelemasta eri maiden uudistamishankkeita yhden yhteisen strategian alle.

Opinto-ohjelmien ja opetussuunnitelmien kehittämisteemat

Toisen asteen koulutuspoliittiset päätökset ja tavoitteet toteutetaan kartoitetuilla kehittämisstrategioilla. Koulunuudistus ja siihen liittyvien muutosten tehokkuus on yhteydessä opetussuunnitelmien kehittämiseen ja toteuttamiseen sekä opiskelijoiden valitsemien opinto-ohjelmien rakenteeseen. Ammattikoulutuksen uudistamisstrategioiden toteuttamiseksi hahmoteltiin yhteisiä keskeisiä opetussuunnitelmien ja opinto-ohjelmien kehittämisteemoja, joita ovat verkostoituminen, valintojen ja tutkintojen joustavuus, opettajien koulutus, opettajien välinen yhteistyö sekä koulun yhteydet työelämään. Yhteiset teemat ilmenevät eri tavoin eri maiden koulunuudistusprosesseissa. Kansallisen luonnehdinnan lisäksi teemoja vertaillaan eri maiden kesken.

Analyysivaihe

Projektin seuraavan vaiheen tarkoituksena on arvioida eri maiden keskinäisiin vertailutuloksiin perustuen, miten ja millä edellytyksillä ja/tai missä määrin valitut toisen asteen koulutuksen uudistamisstrategiat parantavat/ovat parantaneet ammatillisen koulutuksen arvostusta. Maiden välisten vertailujen tuloksena hahmotetaan

- (1) eurooppalaisia strategioita ammatillisen ja yleissivistävän koulutuksen keskinäissuhteen reformoimiseksi,
- (2) malleja teoreettisen ja käytännöllisen opetuksen sekä koulu- ja työopetuksen tavoitteista, sekä
- (3) ammattikoulutuksen arvostuksen nostamista opinto-ohjelmien, tutkintojen sekä opettajien koulutuksen ja paikallisten koulujen yhteistyön kautta.

Projektilla pyritään myös luomaan oppimisyhteyksiä eri maiden tutkijoiden, hallintohenkilöiden sekä koulujen edustajien ja opettajien kesken. Yhteyksien tavoitteena on luoda uusia kokeilu- ja kehittämisprojekteja ja/tai rikastaa olemassa olevia yhteistyökumppaneilta saaduilla kehittämis- ja tutkimustuloksilla.

Projektin rahoitus

Jyväskylän yliopiston Koulutuksen tutkimuslaitos koordinoi "Post-16 Strategies" selvitys- ja analyysihanketta, jonka kesto on kaksi vuotta (1996-1997). Tohtori Johanna Lasonen johtaa projektia. Projektin toteuttamiseen myönnettiin 275,000 ECUa (noin 1.5 miljoonaa markkaa) EU-rahaa Leonardo-ohjelman osa-alueesta (Strand III.2.a.), joka käsittelee ammatillisen koulutuksen kansainvälisiä selvityksiä ja analyyseja. Tämän lisäksi kukin maa varmistaa kansallisen rahoitusosuuden ja henkilöresurssit projektin toteuttamiseksi. Opetusministeriö rahoittaa Suomen kansallisen osuuden. Projektin kokonaisbudjetti on noin 600,000 ECUa (3.3 miljoonaa markkaa).

The education of a liberal human being and school-to-work transition in the context of school-based academic and vocational education and on-the-job training is one of European societies' long-standing problems, a problem addressed in discussions on educational and labour policy. As we close on the 21st century, the relationships between academic education and working life have become a subject for debate.

Although the project partners' professional backgrounds represent different areas of expertise and academic learning, each of us, in arguing for the European reforms of vocational and general/academic education, has had to contend with the view that there is a natural disparity in esteem for initial vocational education as compared to that enjoyed by general/academic education at the level of upper secondary education. This view is based on what we regard as unfounded presuppositions about the nature of an education aspiring to meet varying individual needs and individual diversity in the field of cognition, emotions and skills.

The training programmes launched by the Commission of European Union aim to question the traditional view of academic education and vocational training. In the 1980s educational action programmes emerged as the central means of carrying out the Union's vocational education policy. The existing action programmes cover all levels and forms of vocational education. A central feature is cooperation between working life and education. Their most important forms of action include multinational collaborative projects, cooperative networks and exchange of individuals.

Leonardo da Vinci is the European Union's Vocational Training Programme. It has funds allocated to it for the period 1995 - 1999 and is based on Article 127 of the Treaty of Maastricht. Leonardo is an umbrella programme that gathers together the activities of the Force, Comett, Petra, Eurotechnet and Iris programmes. Leonardo reinforces and brings closer to actual practice the educational policies announced in the Treaty of Rome, the Treaty of Maastricht and EU's White Papers on general policy ("Growth, Competitiveness, Employment: The Challenges and Ways forward into the 21st Century", 1993) and education ("Teaching and Learning: Towards the Learning Society", 1995). The goal of the educational programme is to prepare for the 21st century by raising the level of vocational education and enhancing innovative abilities in Europe.

Collaboration between the Member States of the European Union has made the term "European dimension" a reality in education and research. Educational cooperation undeniably brings added value to the common benefits accruing from the activities of the EU. An European dimension also entails promoting the interests of the members of the Union against furthering purely national interests or the interests of some group within a community. In vocational education the European dimension becomes intelligible when we understand the operation of the various national systems of initial vocational education in Europe and the central concepts linked with them. Cooperation in the field of vocational education has the aim of developing the European dimension as a means of adding value to the national aspirations of the Member States. The European dimension of all education further involves promoting knowledge of languages, exchanging information and exchanging individuals.

The Foundation Treaty of the Union forbids attempts to harmonize education so as to integrate educational legislation and educational contents and structures. The EU's educational policy follows the principle of subsidiarity, bringing decision-mak-

ing as near as possible to those affected by it - each country controls its own educational arrangements. Exchanging the knowledge and experiences of European educational systems promotes the mobility of the workforce. To achieve this objective, the EU countries may agree on equivalent study credits and recognize degrees awarded in other Member States. Comparability depends on each country's familiarity with the educational systems and standards of the other countries and on increasing mutual trust.

At the Madrid Summit held in December 1995, the European Commission introduced a White Paper on education, "Teaching and Learning: Towards the Learning Society" that defines EU's educational policies for the 21st century. The White Paper on teaching and learning aims at initiating a broad-based European discussion on the policies and suggestions set out in the paper. The White Paper analyses the changes taking place in society and working life as we move on to information society and discusses the construction of a learning society. It includes suggestions for actions as follows: (1) encouraging the acquisition of new knowledge; (2) bringing school and working life closer together; (3) preventing marginalization; (4) promoting the mastery of three European languages; and (5) treating educational investments as material investment. The White Paper emphasizes the fact that the construction of a learning society starts from the individual and his or her needs. The implementation of these measures will be financed through training programmes, such as Leonardo and Socrates. The Leonardo programme covers initial and continuing vocational training, including cooperation between universities and enterprises, as well as links between the different areas of vocational training.

The educational interest of the EU has focused almost exclusively on vocational education and adult education and on purely economic values. General/academic education concerned with developing learning readiness and transmitting cultural heritage has been considered a national task. Vocational education is regarded as a tool of active labour market policy. Training helps young people to enter the labour market, promotes re-employment and alleviates long-term unemployment. Increasing competitiveness presupposes investment in human resources.

The vocational education policy of the European Union consists of the opinions expressed by the Member States and the compromises reached on the basis of these opinions. However, the European vocational training policy as a whole may be determined by the policies observed by central countries such as France, Germany and Great Britain. The vocational education systems of these countries have provided the criteria and points of comparison used in analysing such systems: systems grounded on school-based instruction, systems based on on-the-job training, and systems based on modular structures and learning at work, where learning is evaluated by competence tests.

The aim of the Leonardo programme is to break down the barriers separating different forms of education and training. Another central element of the Leonardo programme is the incorporation of an European dimension into vocational education. The programme is divided into four subprogrammes one of which, Strand III, includes the section "Surveys and Analyses". Surveys and Analyses is the second section under the item "Increasing Knowledge of Vocational Education".

Projects launched under the section "Surveys and Analyses" may describe, using a common conceptual framework, the phenomenon under study in terms of its links with working life, educational traditions and social values of each country. The description may reveal both the development that has led to the phenomenon as it currently stands and the environmental factors that its next developmental stage is aimed to meet. The objective is that the surveys and analyses thus generated are also

intelligible to people from a different type of society and that gradually such investigations will yield a common frame of reference and conceptual framework for investigating vocational education all over Europe. Earlier educational programmes had led to the realization that despite a common structure, descriptions and other surveys of the vocational education systems of different countries were hard to exploit because different concepts had been used and because the differences between the societies in the background had escaped attention.

The outcomes of this project consists of the interim and final reports. The interim report is a stepping stone to work for the final, analytic phase. The function of the interim report has been to document the present stage of the Project in order to move on to the analytic stage. The book is primarily intended for those who are involved in teaching, research, administration and decision-making in the areas of upper secondary education and vocational training.

Johanna Lasonen

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Ulla Numminen

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INTRODUC-
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INTRODUCTION

Looking for Post-16 Education Strategies for Parity of Esteem in Europe

Johanna Lasonen

Institute for Educational Research
University of Jyväskylä

The Post-16 Strategies Project has arisen from the current challenges to the development of vocational education in Europe. Comprehensive development projects, such as this, with the goal of increasing the appreciation for and appeal of vocational education, involve strategies by their very nature. As phenomena their own appeal and attraction must be placed in a social and cultural context.

The problems of European vocational education and instruction concern the transparency and recognizability of European educational systems. Educational systems, including initial vocational education and academic/general education, are not reciprocally transparent enough at the European level especially as regards the new Member States.

The demand that skilled workers and professionals should be able to move freely within the European Union is not unproblematic. EU has not yet been able to find a means of ensuring that an employee from one Member State possesses the knowledge and skills to be able to work in another. Although the Member States have concluded some bilateral agreements on equivalences between degrees linked with specific professions and disciplines, the definition of educational equivalences within EU has proved a laborious process with few noteworthy results (Raivola, 1995). CEDEFOP, EU's centre for developing vocational education, has conducted extensive comparative studies of vocational education which have not been exploited as actively as they could have been.

The Post-16 Strategies Project attempts to solve some of the problems which are related to the following goal of the educational policy of European vocational education: The improvement of the quality and innovation capacity of the vocational training systems in the participating countries in advancement to the attractiveness of and the parity of esteem for initial vocational education.

Educational Innovation and Reform

The goal of the EU's Leonardo da Vinci programme is the promotion and encouragement of the high-standard and innovative national vocational schools as a means of both raising European educational and skills levels and guaranteeing life-long learning facilities. Vocational basic and continuing education are not separate stages in the development of an individual but form an ongoing educational process in adapting to working life and in the development of identity. According to Valkama (1991), historically the educational means for the realization of a qualification level can be discussed in terms of different strategies, from extending upper secondary education to organising adult education and, in the end, to restructuring the education of a generation to life-long education.

Innovations are created and innovative capacities developed through national cooperative networks on the one hand, and through international cooperation on the other. This way the European, the national and a rich local experiential base is utilized in cooperation (Green Paper on Innovation, 1995). Bringing the concept of innovation to educational systems leads to educational modernization, to reform. Educational reformers and developers can be found at every level of decision-making hierarchies. The designers and evaluators of educational strategies emphasise different aspects of the reform than those who design and carry out the curriculum. The effect of educational innovation can vary from prosaic adjustment to novel contribution and from modernization to modification. During the last few decades, the innovations have been more moderate in effect in academic/general education compared to those in vocational education.

Van den Berg and Vandenberghe (1986) distinguish the concepts of reform and innovation, pointing out that a reform can comprise several innovations. For example, an upper secondary level educational reform can include new types of student grouping and working methods, new types of assessment, intramural and extramural cooperation as well as curriculum development. Educational reform projects are often multilevel and complex, entailing parallel and coherent attempts to reach various goals. An educational innovation can also have several initiators and realizers. Innovations can originate in the central administration or among teachers, teacher groups, or in schools.

A vocational education reform is often tied to a variety of social and cultural developments. Reforms facilitate the realization of national educational policies and goals. Also, an educational reform is often realized at many levels: administration, educational structure and curricula. Political, social and economic factors play a significant role in the assessment of reforms. For example, the extensive educational reforms carried out in Scandinavia since the 1960s have aimed at promoting equality, while the reforms of the 1990s have had attempts to increase flexibility and to broaden the range of individual choices in education. In Europe it is usually the governments who initiate and introduce educational reforms.

Post-16 Vocational Education Strategies

Post-16 vocational education is primarily defined as upper secondary level vocational education in this Project. Initial vocational education and training refers to initial technical and vocational training and systems of apprenticeship that enable young people to gain a recognized vocational qualification. Initial vocational education and training is formal education referring to the programmes that are publicly financed and administered through the Ministries of Education and Labour and that prepare individuals to find employment in current or emerging occupations. Certificates or diplomas are granted to programme completers, and graduates can often matriculate to higher levels of education.

In Europe the concept of vocational education has been understood in two ways. Vocational education is the established concept in Northern Europe, but in Central Europe the concept is vocational training. For example, Finland, Norway and Sweden refer to a policy context that has favoured an institutional unification of the academic/general and vocational upper secondary school. Consequently, the issues of integration and cooperation refer to the relations between school-based vocational education provisions and academic education.

According to Lauglo (1993), vocational education includes general education in addition to vocational skills; broad-ranging human growth is valued. Training refers more to skills in targeted tasks and work situations included in the job, which is also the goal of the general education included in vocational education. The training approach underlines the values related to increasing the productivity of work, but training can also mean know-how which can be transferred and applied to other situations than the targeted tasks. An example of this would be professional ethics.

In the broadest sense, all education contributes to the skills needed for productive employment and is, therefore, vocational. Although the term education is also used with vocational education, as is done in Scandinavia, its profound meaning for the education and growth of an individual to an autonomous citizen through vocational learning has not been problematised in general. An exception to this are the pedagogical approaches developed in Germany.

A strategy as a concept is related to the terms strategic thinking, strategic planning, strategic management, strategic development, strategic process and strategist. As a concept, it is difficult to give an unambiguous definition of strategy (Mintzberg, 1988). The concept is related to the manner in which systems and organizations relate to their environments. A strategy is a more or less conscious manner of relating to the environment. There are three main stages in the process of strategic development (Valkama, 1991). During the analysis stage a view is formed on the need of and prerequisites for change. The tools to manage the developing operation are produced at the production stage. The evaluation stage includes the realization, evaluation and establishment of change.

The Post-16 Strategies Project surveys and analyses vocational education reform strategies that may improve the esteem for initial vocational education within the eight European educational systems represented by its partners. The national descriptions of educational policy goals, of vocational education reforms and status as well as problems comprise the survey and interim part of the Project. Revealing the hypothetical strategies may remain as intellectual exercise if their impacts on educational and training actions are not analysed, piloted and evaluated.

Networking Vocational and Academic/General Education and Working Life

A network can comprise unofficial and voluntary or official cooperative ties. Local and regional models for systematic innovation can be based on strategies that include networks to support the local innovative capacity. The economic development of the local level and the state of the labour market affect vocational education policy. Educational institution level innovations and the networking supporting it aim at developing curricula.

The purpose of networks between vocational and academic/general education and working life is the enrichment of vocational and academic/general education programmes through mutual cooperation. Cooperation may involve various educational establishments and their teachers and students. The starting point is equal esteem for different learning contents. While we incorporate general contents into vocational programmes we should also ask whether academic/general programmes lack vocational elements.

Another aspect of networking is that administrators and researchers, who often have an academic educational background, should be able to enter into genuine cooperation with vocational educators and institutions. Physical networks are created to foster mental networks, which according to Flower and Higgins (1991) include:

Mental networks of meaning: The actors construct a web of intentions, a network of complexly linked goals, plans and constraints.

Networks of information represent socially shared knowledge that is constructed from individuals' experiences.

An important aspect of educational networks are their connections with the world of work for which they prepare students. Formal training programmes rarely have strong links with employers, despite the conventional assumptions that there should be such links. Herschbach, Hays and Evans (1992) state that the training programmes having work experience components are more effective in adjusting to labour market needs. Through the training programmes employers also have a chance to get to know their future employees.

Methodology of the Project

Strategic thinking is seen as a developing methodology where vocational education is related to society and as structuring of an individual's course of educational life. The development of strategic thinking can be analysed, as Kuhn (1970) has suggested, as the formulation and stratification of paradigms. Development means the creation, establishment and deepening of thinking patterns, and their clash with the anomalies manifested in the objects of thinking. It is not possible to offer an explanation or a solution to such anomalies within the framework of the thought pattern where they arise. To explain an anomaly, to solve the contradiction between theory and practice requires breaking free from the framework of a thought pattern that has become a paradigm and creating a new thought pattern.

Reviewing and analysing educational reform strategies entails describing a continuously changing reform and renewal process. It is a procedure that has no clear methodological instruments. The Post-16 Strategies Project is an attempt to generate instruments for developmental analysis of this kind.

The method chosen for implementing the Project is that of a structured collaborative writing process where an interdisciplinary international team of experts generates the results of its analysis of vocational education in and through writing. The process advances stage by stage through the completion of tasks agreed upon together. The project also applies an expert assessment model.

A collaborative writing process is a way of knowing and acquiring knowledge based on writing (Beard & Rymer, 1990). This entails the hypothesis that knowledge of vocational education emerges in social interaction. Thus, writing is not just a cognitive process and producing text but also social action. Learning through collaborative writing is more a collaborative social endeavour than a competition between the participants. As a result of their work, the experts who cooperate through collaborative writing help outsiders understand the social dimensions of phenomena, which results in new information. Duin (1990, 45) defines collaboration as a process "that requires support for more than just the exchange and maintenance of information". The prerequisites for efficient collaboration are a shared perspective as the subject under discussion, flexible use of official and unofficial communication channels and working relationships between the participants. Moreover, those taking part must enjoy collaborating as such. Understanding individual views also facilitates collaboration, which is important to all participants, as well as knowledge of how certain variables affect the collaboration.

As the project advances, its methods may also include the use of action-oriented evaluation methods such as accompanying research. Because evaluation will be carried out by an interdisciplinary expert team and because the objects of its analyses are national vocational education systems with varying economic, cultural and social backgrounds, it is necessary to make choices between the prevailing evaluation paradigms. Moreover, it is necessary to consider which evaluation paradigm is the most suitable one for the evaluation and analysis of educational reforms.

Organisation of the Book

The purpose of the book is to describe the process through which the hypothetically identified reform strategies, implemented through networking vocational and academic/general education with a view of enhancing the appeal of and appreciation for vocational education, have been carried to completion. The material collected at the interim phase of the Project will be used to answer the following questions:

1. What is the status of upper secondary level vocational basic education in the eight participating European educational systems?
2. What types of upper secondary education reform strategies are being carried out in these countries?

The interim report contains the preliminary results of the interim phase of the Surveys and Analyses Project. The final results will be presented at the end of 1997. The present report consists of the descriptive and comparative material that the team

of European experts has generated collaboratively given in the order in which the collaborative writing process originally proceeded. The structured writing tasks that resulted in the contributions published here are described in the beginning of each section.

Part One outlines the considerations surrounding the achievement of a parity of esteem between vocational and academic/general education. The appeal of and appreciation for vocational education is discussed in terms of the consequences that arise out of the behaviour of students and their parents as they choose educational channels. Another review outlines how different educational solutions, syllabes and curricula structure European upper secondary education and the degrees it delivers. Also analysed is the relationship between the appeal of upper-secondary-level vocational education and the choice of the educational channel, including the issue of how highly valued and versatile an occupation and job the given education guarantees to a citizen.

Part Two looks at the national contexts represented by and the status of initial vocational education in a variety of European upper secondary systems. In addition, each partner reviews six common issues running through the national post-16 reforms to improve parity of esteem. National reports cover Austria, England, France, Finland, Germany, Norway, Scotland and Sweden.

Part Three compares the six common issues across the eight nations' upper secondary education reforms. Comparisons focus on the interpretation of parity of esteem, the labour market context, the educational system, local networking/linking between schools and between schools and working life to find new forms of learning for future skills, teacher education or/and teachers' co-operation supporting the reforms, and qualifications, flexibility of student programmes and curriculum development.

Part Four examines and summarizes the findings of the hypothetical post-16-education strategies for improving the parity of esteem for initial vocational education. The hypothetical strategies described are enhancement, enrichment, linkages and unification. Finally, the next proceedings of the projects are outlined to show that the project is in its interim phase.

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PARITY OF ESTEEM BETWEEN INITIAL
VOCATIONAL AND ACADEMIC/
GENERAL EDUCATION

Improving Parity of Esteem as a Policy Goal

Raimo Mäkinen

Matti Vesa Volanen

Institute for Educational Research
University of Jyväskylä

Parity of Esteem and the Students' Choices

A parity of esteem between vocational and academic/general education has been included among European educational policies, and it may be worth while to outline what may have been the practical problems behind this choice of a priority. First, it is no doubt felt that some disparity, especially to the advantage of academic/general education, exists and that, accordingly, the esteem of vocational education should be increased. It may be that a better parity could also be achieved by decreasing the esteem of academic education but, of course, this formulation of the problem is avoided here. Secondly, it seems that the concrete problem involves the preferences and choices of the students, and that the notion "disparity of esteem" is only used as a scholarly but tautological explanation of or cause for a situation where too few young people or the wrong young people apply for and enter vocational education - instead of taking the academic/general track.

Any disparity between the two tracks gains its full significance under conditions where (almost) all, say, 16-year-olds enter further education. Under these conditions the competition between the tracks is for the number as well as for the quality of the applicants. The parity problem is less clearcut if the proportion of those who remain outside any upper secondary education is high, i.e. if there are, in principle, more than enough applicants for both of the tracks. Under the latter conditions the attractiveness of the two tracks can be analysed more separately, without necessarily referring to the notion of parity or comparison/competition between the tracks.

In principle, however, it makes a difference whether we are worried about too few entering the vocational track or about too many choosing the academic track. The latter has been the case at least in Sweden and Finland, where "an overflow of academic students" has been a political question for several decades.

But why, then, should we be bothered by too many academic students or by too few vocational students? "Too many academic students" might refer to worries about a decrease in the quality, status (esteem!) and privileges of the academic track, about the costs and economy of the educational system (an "unnecessarily" long general education before entering vocational education and the labour force), about the social consequences of having "too" many highly educated people (who become frustrated in their career expectations, the Shining Path theory) - or worries about having too few "good" students left for the vocational track.

By "too few vocational students" a critic obviously refers, first of all, to the needs of the labour market and industrial life. The problem may concern the vocational

sector as a whole or - more likely - some branches and/or levels of it. Further, it may concern the absolute number of vocational students or, as noted above, the quality of the students left for/attracted by vocational studies. In any case, the argument relates the problems of vocational education to the qualification needs of industrial life. It is something of an open question whether these "needs" also include securing the abundant supply and low price of labour on the labour market. Without mention here are left, of course, any arguments to the effect that vocational students are needed to ensure the employment of vocational teachers or that some employers may want more apprentices to use them as underpaid workers.

Esteem as an Expressive and Instrumental Value

The above orientation implies that the core of the disparity problem lies in how those who choose between vocational and academic/general education (those aged 15/16+ and their families) "esteem" the two tracks - as real options for themselves, not for the neighbourhood kids. However, anything like "esteem" (as a behavioral attitude held by somebody or by a group) hardly exists in a social vacuum or without any practical experience or rational thinking as a background. In other words, esteem (of, say, vocational education) can be taken as a first or descriptive explanation of a behaviour but it is not the real or final cause of it. By replacing the notion of *esteem* by that of *value* we can proceed by differentiating between the symbolic/expressive/consummatory value of an education on the one hand, and its instrumental or means value on the other. The former may come closer to the social-psychological denotations and connotations of "esteem" while the latter might be of primary interest for this project on the parity of esteem of vocational and academic/general education. Let us note, however, that the symbolic/consummatory value of an activity (education) also includes its attractiveness "as such", i.e. the immediate rewarding qualities of the activity in itself (cf. internal motivation).

Of course, the symbolic and so on value of the educational tracks is not without importance. Choices of education and educational institutions surely are influenced by reflections about, for example, what I (as a youngster or as a parent!) express about myself / my talents / my values / my background if I choose this instead of that, how jealous some remote relatives would feel if they were to hear about my choice and how much I would enjoy studying in this/that institution.

The instrumental value of an education is of two kinds, one immediately linked with the educational system and the other linked with working life. In the case of upper secondary/post-sixteen education the main point involving the educational system concerns the educational qualifications and eligibilities for further/higher education given by the education in question. These educational qualifications can be further divided into two. Formal qualifications refer to the formal eligibility rules of higher education institutions while substantive qualifications refer to the actual competencies developed for higher studies. In short, the better or broader possibilities for further studies an education opens, the higher is its instrumental educational value.

The instrumental working-life value of an education is a function of its effects on employability, work career prospects and incomes. In addition, some immaterial features of working-life positions and careers may affect the value of an education that

typically leads to them - power, prestige, life style, fashion. What is essential here is that any education has implications for working life and the labour market and that the instrumental working-life value of any education depends on these implications.

Finally, let us note that the students' choices do not depend on the symbolic and/or instrumental value of the alternatives alone. Motivation theories traditionally describe any goal-directed behaviour as a function of the goal value and the probability of achieving the goal. In short, most people do not try to reach goals that are either too improbable or too easy to achieve. This fact further complicates the analysis of our disparity problem.

Improving the Esteem of Vocational Education and Training

As a conclusion to what has been said thus far let us repeat that (a) any disparity of esteem between two objects may be removed by decreasing the esteem of one object and/or by increasing the esteem of the other and that (b) the esteem of any object depends on its symbolic and instrumental value. In order to improve the esteem and attractiveness of vocational education we obviously must start by analysing what the value of this education depends on and how to accordingly influence these factors.

The symbolic value of an education can be improved by effective selling and advertising, which may depend on fashion-like factors. It can also be improved by exclusion, by restricting the number of students enrolled or by making the enrolment highly competitive. In the long run, even the symbolic value of an education obviously depends on its instrumental value, i.e. on what else can be achieved by that education - or used to be achieved in the past.

In most educational systems vocational education represents an educational blind alley, at least if compared to the options open after general/academic secondary education. In addition to the esteem (symbolic and instrumental value) of these options it seems that already the number of options as such is important.

Three prerequisites for increasing the educational means value of vocational education may be mentioned. First, there should be abundant relevant post-secondary study options for those graduating from vocational education. Besides or instead of expanding the traditional university sector, the creation of new higher education alternatives especially relevant for vocational graduates (*Fachhochschule*) could be an effective way of improving the educational means value of vocational education. Secondly, the formal and practical enrolment rules of higher education institutions should not prevent vocational students from planning and entering higher education. Thirdly, vocational education shall certify the substantive qualifications necessary and useful for successful higher education studies. This last point concerns directly the development of (secondary) vocational education while the first two concern the systemic environment of vocational education.

The working-life value of vocational education, too, depends unavoidably on its working-life environment on the one hand, and on the qualities of vocational education in itself on the other. Any education leading to high unemployment, low and insecure incomes and dissatisfying work tasks and working conditions is of low instrumental working-life value and, accordingly, only changes in working life can improve its value. However, there is some controversy concerning the interaction between working life and educational systems, and some educational optimists may

insist that changes in vocational education can change working life. The point is whether vertical enlargement of the competencies developed in vocational education can, for instance, lead to vertical enlargement of work roles.

In any case, employment and earnings are the most valid indicators of how the qualifications produced by vocational education are esteemed by enterprises and society. Under relatively stable conditions of industrial life the young and their parents have not had serious difficulty in reading correctly these indicators and, accordingly, "the esteem" of vocational education has been more or less exactly what it has deserved. New problems, however, are brought up by instabilities and uncertainties of the "post-modern" business and industry with less immediate or visible associations between education and working-life positions. It has become a commonplace to say that under these conditions, the instrumental value of vocational education depends more and more on how it prepares students for an overall mastery of life, for an unpredictably evolving work career, flexible changes of occupation and occupational field, continuous changes in work tasks and requirements within any field, and for continuing and re-qualifying education. It is also quite easy to say that all this can be achieved by broadly-based and flexible education and by promoting the development of general/transferable/key qualifications in vocational education.

More problematic, however, is how all this can be achieved in the educational praxis and how the young can be made to see and believe that all this is of real value in working life. And, after all, it is possible to ask for more specific proof of the claim that the employers really esteem, that is employ, young generalists capable of development and adaptation. Even if the representatives of enterprises assure (at least as participants in educational discussion) that this is the case, their everyday practices may be different. The labour force actually asked for and hired for "flexible production" tends to consist of workers with specified work experience engaged for a fixed period, not young generalists supposed to stay on and develop further within the firm.

In conclusion, our analysis of the esteem enjoyed by vocational education in terms of its instrumental value in the educational system and in working life seems to lead to some controversies. The most straightforward way of increasing the educational-system value of vocational education programmes is to include or add academic components into such programmes. However, especially when this takes place at the expense of achieving immediate occupational competencies and actually leads to a high enrolment rate of vocational graduates into higher education, we may well ask in what sense it still is vocational education. Analogously, some attempts to increase the long-term working-life value of vocational education may decrease its immediate working-life value. The visions of work-life futurologists do not come true at once or in their totality. If they ever do come true, the new working life will evolve unevenly and gradually and most of the young graduates must, to start their work career, also fit the requirements of the work organizations of today - or of yesterday.

Secondly, it is to be noted that increasing the substantial value of vocational education as a preparation for higher education very probably also increases its long-term work-life value. Qualifications believed to be useful in further studies tend to be the same as those often listed as useful in mastering the changes reshaping working life. One more problem, however, is created by the fact that increasing the output standards of an education tends to equal making it more demanding. And even if this may improve the "esteem" of vocational education and attract more talented students than before, it very probably attracts less or excludes some students at the lower end of the distribution of school achievement. It seems that all this tends to lead to a system of four educational tracks: one (academic?) for the most talented or socially privileged, another more demanding vocational one with "esteem" high enough for

some competitive power in relation to the academic track, a less demanding vocational one for those excluded from or not attracted by the former two and, perhaps, a fourth one of no-education for those who specialize in becoming displaced in the new society.

Problems of Strategies for Reaching Parity

If the target of European educational policy is a parity of esteem between academic and vocational education, what are then the strategies used in the attempt to reach this parity? The expression of such an objective - "parity of esteem" - requires a pair with a parity. The disparity between the pair - vocational and academic education - is a result of strong organizational, functional, social and cultural differentiation between these two educational traditions in many European countries. We have even two different words for the twosome - education and training. They are different but they should have a parity of esteem, that is the target. The target has then a hidden message: we should reorganize the relations between vocational and academic education so as to reach parity of esteem but without abolishing the clear differentiation between them. Is this possible?

In many European countries efforts have been made to find new relationships between academic and vocational education by means of separate experiments or through extensive experimentation. There have been three main approaches: modularisation, integration and mutual enrichment.

Modularisation. This approach is based on the idea of modules, where the learning materials and learning events can be isolated into clearly separated study units. In this case the question of vocational and general education does not pose an actual problem. Educational provision must include different modules, from which the student can quite freely construct his or her own study programme. The criterion of choice are the student's own interests, which hopefully result in a combination of studies that is satisfactory from the student's point of view. Education based on the modular structure often involves the idea that education has the form of a programme, in other words, that within the constraint of certain rules there are many ways of constructing it. The degree to which this programme becomes a study programme personally planned by the student varies from one country to another.

Integration. Another major approach entails the integration of vocational and academic education. It is possible to realize this goal in many different ways, but the basic idea has often been to discover common contents for the curriculum by cross-tabulating different vocational fields and academic disciplines. By means of such cross-tabulation of fields and disciplines it is also possible to create a new systematic, where the disciplinary classification usually dominates while the vocational one has been adapted to it. As an educational policy, integration is often characterized as "elevating the standard of vocational education" and making it "more scientific". In this case, vocational education is regarded as somehow less developed than the academic approach. Often the idea of integration also involves the ideal of an organic entity. Teaching materials permeate each other, teaching contents form a "totality" where nothing can be separated from the whole without destroying the entity. The

boundaries between study units remain vague. They are considered as purely formal distinctions and are even seen as an obstacle to studying.

Another thought often connected with the idea of integration concerns educational lines. In other words, study materials have been formed in advance - on scientific grounds - into an organic entity which must be studied in a certain order, and where no essential elements can be left out. Thus the student can make an independent choice, but only from educational lines that have been constructed in advance, and little room is left for choosing among learning contents as such or between alternative ways/forms of studying.

Mutual Enrichment. The idea of mutual enrichment springs from the incorporation of two long-standing educational traditions - vocational and academic. These traditions cannot be forcibly kept apart nor can they be integrated by force, by assimilating one into the other.

Instead, what is at issue here is a fundamental change in the basic nature of knowledge and skills demanded by work and citizenship today. Both knowledge and skills, that is, education in general, must be more and more open in the sense that they should enable people to organize and master open situations.

An important criterion in the development of education at the upper secondary level has involved the question of the form of the studies - whether they should be based on study lines or study programmes. In studies based on study lines the curriculum defines a range of lines, one of which is to be selected by the student, so that there are only limited possibilities to change a study programme after the study line has been chosen. The approach founded on study programmes, on the other hand, emphasizes the student's personal opportunity and duty to construct his or her own study programme within the framework of available options. The proportion of permanent teaching contents, compulsory to all, can vary from 1/3 to 2/3. As a result, the degrees/examinations linked to the studies become what are called framework degrees, which can be "filled up" in many different ways.

If we combine two of the classifications described above, we obtain the following table.

By means of this dichotomy we can present the four basic alternatives for education at the upper secondary level. Practical examples and experimental pro-

Table I-1.

Some Major Alternatives in the Organization of Upper Secondary Education

Alternatives	Vocational/Academic	
	Differentiated	Undifferentiated
Study-Line-Based	A Academic upper secondary schools vs. vocational institutions	B Integration
Programme-Based	C Mutual enrichment	D Modular structure

grammes can be found to illustrate each alternative. It is also possible to see these different strategies as steps or pathways towards the same aim. Mutual enrichment can have as its second step modularisation followed by integration, or as a part of enrichment we can also use the idea of modularisation.

The educational target - parity of esteem - creates a playground for educational differentiation of a new kind. Such new distinctions presuppose a common approach, whether based on modularisation, integration and/or enrichment. They mean also a new differentiation of the organizational, functional, social and cultural tasks of education. It may be that this will lead not to a parity of esteem but, rather, to esteem for the acquisition of more open skills and open knowledge.

Alternative Strategies for Parity of Esteem between General/Academic and Vocational Education in Europe

Pekka Kämäräinen

European Centre for the Development of
Vocational Training, Thessaloniki

Introduction

In the following I will first attempt to characterize different systemic preconditions for posing the question of "parity of esteem". Then I will describe different educational and curricular reforms (or initiatives) as well as different roles played by research against their various systemic backgrounds. In this way the complexity of diverse national situations can be contextualized as different zones within a common space of comparisons. The zones can be distinguished on the basis of "family resemblances" between the underlying systemic premises and the respective reform scenes.

Outlines of a Common Framework of Comparison

The Meaning of the Concept Parity of Esteem in Different Systemic Contexts

When making any cross-cultural comparisons and especially when drawing conclusions concerning Europe we must ask whether the concept of parity of esteem always carries the same meaning and whether it refers to similar educational reforms or initiatives.

The first precondition for answering this question is investigating the systemic functions of "general" or "academic" options within the educational system and especially within the structure of upper secondary education. Consequently, we must examine the systemic functions of vocational education and training (VET) provision within each national VET culture against the background of the coexistence of general/academic provision and VET provision. A rough characterisation would distinguish between two kinds of systemic functions of the general/academic provision:

- A1. In highly comprehensive and unified educational systems the function of upper secondary general/academic education can be described as "advanced comprehensive education". Within such systems these options do not merely serve as preparatory steps towards university education but, rather, as a broader preparation for a "higher educated society", which is expected to offer alternative post-secondary progression routes. From a curricular point of view general/academic provision of this kind has a highly encyclopedic character.

A2. In *highly selective and divisive educational systems* the function of upper secondary general/academic education is to prepare the students for academic studies. Choosing to enter the upper secondary school is linked with plans to continue one's studies in higher education. Within such a constellation, upper secondary education has the function of sorting out those who are likely to complete their studies successfully. From a curricular point of view such types of general/academic provision are oriented chiefly towards a pre-academic specialisation.

Another similarly rough characterization allows us to distinguish *three kinds of systemic functions served by VET provision* within similarly different "systems environments":

- B1. In more "*educationalist*" VET cultures the provision of vocational (and technical) education is organised mainly as full-time education within the educational system. From a curricular point of view such provision is based on vocational subjects delivered by teachers who have behind them a similarly profiled VET teacher education. Within such VET cultures the task of vocational schools and institutions is to produce the workforce of the future and to contribute to the renewal of its competence by a coordinated (systemic) development of the curricula of vocational subjects.
- B2. In more "*professionalist*" VET cultures initial vocational training is seen as an integral aspect of the renewal of the labour force employed by the enterprises as well as an integral aspect of upper secondary education. Thus, initial VET has a dual function and is organised in cooperation between school-based and workplace-related learning environments. Moreover, the organisation of such VET provision is conceived as a "joint venture" of the training enterprises and the supporting vocational schools. There are systemic regulations intended to ensure a general recognition of occupational qualifications on the labour market and to make possible general mobility. Systemic support for experimental curriculum development is meant to promote a general dissemination of innovations throughout the VET system.
- B3. In more "*pluri-systemic*" VET cultures there are several parallel sub-systems or system-like provision schemes for initial VET. Some of them may have a more "educationalist" character, some may be more immediately linked to the renewal of the labour force in the enterprises, some may have a mainly employment promoting function in facilitating the transition of young people from education to the labour market. This plurality involves a non-uniform perception of qualifications, labour market prospects and outcomes of learning. Due to such plurality the systemic interventions to improve the quality of VET are either particular actions (e.g. launching new types of provision) or intermediate measures based on cooperation with the actual VET providers.

Summary. Because the systemic functions of various types of general/academic provision and VET provision are thus diverse, the concept parity of esteem may denote different kinds of problem constellations between "the two cultures". On the one hand the concept may refer to disproportional trends in demand pressures within unified "educationalist" cultures. Due to an expansion of the general/academic provision, VET providers must either transform themselves into post-secondary institutions or become more attractive as alternative forms of upper secondary education. On the other hand the concept may refer to a relative weakening of the "professionalist" VET provision vis-à-vis the competition of the general/academic learning provi-

sion. When combined with the uncertainties besetting the youth labour market and company training policies, such tendencies are conceived as systemic risks endangering the dual patterns of labour force qualification. Within pluri-systemic cultures there is often a tendency towards bipolarity between specialised pre-academic education and specialised (that is, narrow) VET provision. This bipolarity and the heterogeneity of VET qualifications lead to cultural gaps and to a lack of relevant progression routes for vocational learning.

Curricular Strategies for Achieving Parity of Esteem

In addition to the different systemic preconditions we must consider the differences in curricular strategies for achieving parity of esteem. In the following, three aspects related to curricular strategies are discussed: (1) strategic approaches to overcome the boundaries separating general/academic and vocational education; (2) the systemic level and the targeting of curricular interventions; (3) specific approaches to curriculum development linked with given strategic options.

Strategic Approaches to Overcome the Boundaries separating General/Academic and Vocational Education. As a starting point for analysing curricular strategies it is necessary to discuss different approaches to overcome the traditional boundaries between general/academic and vocational education. From this point of view two main types can be constructed:

1. curricular homologization (i.e. strategies meant to reduce confrontations and distinctions between general/academic and vocational education in curriculum planning);
2. curricular interpenetration (i.e. strategies based on mutual enrichment between general/academic and vocational curricula);

The Systemic Level and the Targeting of Curricular Interventions. When discussing the systemic level and the targeting of curricular interventions it is useful to make a distinction between two kinds of approaches:

1. aggregative measures (framework adjustments and regulations) which do not include specific goals concerning the outcomes of learning but instead define margins within which immediate providers and/or individual learners may make autonomous decisions); and
2. integrative measures (targeted curriculum development initiatives intended to introduce new kinds of integrative provision types and/or polyvalent qualifications).

Approaches to Curriculum Development Linked with Different Strategic Options. The aspects discussed above can be conceived as the two dimensions of a matrix. The third aspect - the identification of specific conceptions of curriculum development - involves alternative strategic options (i.e. cells) in the given matrix. We may distinguish between the following approaches to curriculum development:

- A1. *Unified modular frameworks* as the overarching idea for curriculum development. Such approaches avoid the explicit construction of distinct general/academic or vocational programme structures. Moreover, a characterization of particular modules as "general/academic" or "vocational" is reduced to a minimum. Thus the profiling of the content of learning is left to the learners. However, the systemic framework planning must include some guidelines for credit accumulation and for recognizing the outcomes of learning.

- A2. Developing *intermediate or integrated curricular options* with a "technological" or "general vocational" profile. In approaches of this kind a direct confrontation with the traditional "general/academic" and "vocational" types of provision is avoided; instead - as a bridging measure - some kind of intermediate provision is designed. These "technological" or "general vocational" options are often developed in such a way that they are compatible or comparable with both kinds of "main provision".
- B1. *Curricular cooperation and mutual exchange* between general/academic and vocational provision. In approaches such as these the curricular intervention aims to make possible curricular cooperation between different types of "main provision" and/or enable individual learners to make targeted cross-cultural choices. Overarching guidelines define both the characteristics of general/academic and of vocational qualifications and the limits of cross-cultural choices.
- B2. *Curricular enrichment of initial VET provision schemes* by introducing polyvalent vocational learning opportunities. In such approaches the starting point is the curricular enrichment of the vocational learning provision. The core principle of such approaches is enriching work-related teaching/learning arrangements so as to make possible systematic higher studies. Thus, VET provision schemes should retain their primary function of delivering vocational qualifications. At the same time, however, the enriched VET curriculum includes goals involving access to higher education.

For the sake of completeness, one more approach beyond this matrix of alternative options must be mentioned. It can be characterised as *the merger approach* (or as the complete integration approach). The core philosophy of such an approach was to introduce dually valid qualifications and dually targeted curriculum profiles. As regards vocational provision, this approach required a redefinition of the contents of vocational learning in terms of the utilization of "underlying discipline structures". As regards general/academic options, the approach required their unification with a vocationally profiled environment for knowledge utilization. An approach of this kind was influential in certain educational reform experiments in the 1970s. However, due to several setbacks during the 1980s it has gradually faded away and the experiments where it featured have been assimilated into projects involving the enrichment of initial VET provision.

Different Kinds of Policy Contexts for Curriculum Development

A further aspect to be considered is the policy context and systemic scope of curriculum development activities. From this point of view we can identify the following basic situations:

curriculum development as an internal elaboration of pre-existing unified frameworks in order to exploit, in a more sophisticated, way the available possibilities towards parity of esteem (e.g. the case of Sweden and Norway);

curriculum development as an experimental strategy for developing inter-institutional cooperation under overarching guidelines (e.g. the case of Finland);

curriculum development as a way of broadening the contents of general/academic provision towards "intermediate" curricula with a "technological" profile (e.g. the French *Baccalaureat technologique*);

curriculum development as a way of broadening the scope of vocational provision schemes towards "intermediate" qualifications (e.g. the GNVQ and the GSVQ models in the UK and in Scotland);

curriculum development as particular experiments on the enrichment of initial VET provision in a more polyvalent direction (e.g. the current German model/pilot schemes in Brandenburg and Bavaria);

curriculum development involving the opening, after initial VET, of a vocational progression route to continuing vocational training through the introduction of polyvalent curricula and diplomas, that is, curricula and diplomas enabling access to higher education (e.g. the French *Baccalaureat professionnelle*).

The gallery is not complete but does illustrate a spectrum ranging from nearly comprehensive reform models to very narrow-scope innovative activities. It is worth noticing that in some countries several parallel models or initiatives operate side by side. Moreover, in some countries "intermediate" models may have a long history (e.g. the Austrian *Berufsbildende mittlere Schule* - BMS and *Berufsbildende höhere Schule* - BHS). Thus, we are not here discussing only relatively recent reform models or recent revitalizations of some classic curriculum development initiatives.

The Role of Research within Different R & D Cultures

Different policy contexts have also an impact on the role played by research in curriculum development activities. Strong political support for reform ideas or strong concern over systemic risks is likely to be accompanied by an interest in mobilizing research to promote curriculum development.

However, the contributions of research are neither direct responses to policy concerns nor direct emanations from an academic research culture. Different countries have different traditions of "intermediate" research (or studies) which provide a cultural code for interaction between research traditions and policy issues.

As regards the different policy contexts and the different approaches to curriculum development linked with the theme parity of esteem, there are several alternative ways of incorporating the theme into research efforts. However, roughly speaking these can be clustered into a bipolarity between two extremes: (1) External evaluation studies or surveys which deliver indicators and empirical data for policy evaluation (but which do not themselves contribute to the development of the curricula under consideration). (2) Accompanying research projects linked to ongoing model/pilot schemes or experimental programmes with a dual function (co-participation in curriculum development and real-time delivery of evaluative feedback).

Another set of distinctions arises out of a scientific perception of the specific characteristics of vocational learning:

In "educationalist" VET cultures the specific characteristics of vocational learning are often neglected and instead different types of VET provision are viewed as special fields of school education or school-based learning;

"Professionalist" VET cultures discuss the specific characteristics of vocational learning as a process where learners move from the acquisition of knowledge, skills and abilities towards targeted contextual utilization both from the perspective of vocational education (and its adequacy as education) and from the perspective of occupational qualifications (and their acceptability to enterprises and labour market organizations);

Within "pluri-systemic" VET cultures the effectiveness and efficiency of particular types of VET provision is discussed primarily from the perspective of the transition from education onto the labour market.

Regarding these diversities we must also pay attention to whether research on parity of esteem is viewed

from an overarching policy perspective. Such a starting point is more likely to be accompanied by external evaluational studies and surveys; or

from a curricular enrichment perspective linked with VET provision. A starting point of this kind may involve participatory research experiences (and conclusions stemming from such experiences concerning specific factors that promote or limit the successful implementation of curriculum innovations).

Comments on the Approach Chosen for the Post-16 Strategies Project

The Leonardo Project on Post-16 Strategies is oriented towards aggregative and/or overarching framework reforms that combine both general/academic elements and vocational elements to form a basis for curricular cooperation or curricular exchange.

The Project aims at a parallel development of networking between curriculum development projects (practitioners) and participatory or evaluating researchers (a combined research and development partnership).

As regards its scope of generalisation, the Project tends to limit itself to the "proximal zones of comparison" that it has chosen as its starting points. Thus, the Project does not pose questions that would go beyond curricular cooperation between school-based schemes for delivering general/academic and vocational education.

SURVEYING POST-16 VOCATIONAL
EDUCATION REFORMS
IN THE NATIONAL CONTEXTS

The articles making up Part II are the fruit of a structured writing process and round-table discussions during a joint workshop. The first workshop (held in Jyväskylä, Finland) and writing assignment of the Post-16 Strategies Project focused on the recent and ongoing reforms, experiments and pilot projects undertaken in post-16 education with the aim of placing initial vocational education on a more equal footing with academic/general upper secondary education. Preparation of the national reports was guided by the following tasks:

Surveying educational experiments and/or developmental projects in post-16 education, including educational policy goals and strategies, to improve the parity of esteem for initial vocational education;

Viewing post-16 education as an aspect of each national educational system;

Identifying policies and strategies behind the post-16 education reforms; and

Possibly designing a programme of work for evaluating developmental or experimental projects and setting up networks with local/national educational units.

However, it was agreed during the first workshop that the project should not make compiling national reports its main objective. Even though the national contexts of delivering initial vocational education differ, all involve such goals of the Leonardo Project as improving the parity of esteem and enhancing the relationship between vocational and academic/general education and between education and working life. The national reports were reconstructed and reworked on the basis of the six priority themes defined as a result of metapanning using the method of brainstorming.

In the second and third articles below the partners explicitly identified the relevant reforms and their relationships to the six common themes as a basis for further analyses, comparisons and evaluation. The agreed common themes were, apart from the issue of parity of esteem itself, the labour market context, the educational system, local networking/linking between schools and between schools and working life to find new forms of learning for future skills, teacher education or/and teachers' co-operation supporting the reforms, and qualifications, flexibility of student programmes and curriculum development. The six themes were elaborated in the form in which they emerged in each reform chosen for analysis.

Part II includes the eight national reports that are answers to the following questions:

- (1) What are the reform strategies being applied in post-16 education to improve the status of initial vocational education?
- (2) How are the six common themes related to the national vocational education reforms?

The Austrian vocational education and training system offers three main types of secondary education: apprenticeship training, full-time intermediate- and higher-secondary-level technical and vocational training and academic secondary education. Students can enroll in vocational training programmes from the age of 14 on. It is at this stage that they have to determine whether they want academic or vocational education. If they choose vocational education, this is the point at which they also have to decide on their future occupation. In apprenticeship training and the dual system vocational education and training take place in training companies and in schools (80 and 20 per cent respectively of total training time). In 1994 students were being prepared for 238 different trades. Intermediate-secondary technical and vocational schools (*Berufsbildende mittlere Schulen* or BMS) offer one- to three-year programmes qualifying students for specific occupations. Training lasting three years or more leads to a licensed trade. Higher-level technical or vocational schools (*Berufsbildende höhere Schulen* or BHS) deliver upper secondary education completed with the Matriculation Examination. A special feature of the Austrian vocational education system, BHS provides advanced general and vocational education (double qualification), which both qualifies students for higher positions and gives them access to universities. The BHS have intensive and institutionalised relations with business and industry.

The advantages of the apprenticeship and dual system training are the early integration of students into working life, the prevention of unemployment among young people and the low cost of firm-specific initial training. Disadvantages include obsolete job descriptions, conflicts caused by the divergent interests of trade unions, Chambers of Commerce and ministries, and the lack of professional perspectives for apprentices.

Three trends are reshaping the Austrian dual system. The number of training companies is falling, especially in commerce. In this connection it must be said that the Austrian apprenticeship scheme has failed at least in the sense that it has been unable to compensate for the loss of apprenticeship placements in traditional branches of industry by creating new ones in modern industries. Secondly, the number of apprentices is decreasing. Thirdly, their educational level has risen. In school-based vocational training a general trend favouring higher education together with the good labour market prospects of BHS graduates have made BMS less attractive.

This trend towards higher-level qualifications is paralleled by changes that have taken place on the labour market during the past ten years. The proportion of working people without vocational education has been decreasing significantly by some 25 per cent. In 1991 graduates from apprenticeship training accounted for 40 per cent of the working population, making them the most important group on the labour market. The share of graduates from the BMS has risen by just under 10 per cent and is now at the level of 13 per cent. There has been a shift between graduates from the academic secondary schools and those from the BHS,

accounting for 4 and 6 per cent respectively in 1991. Despite free access to universities, the percentage of the working population in tertiary education is relatively low (5 per cent).

There has been growing dissatisfaction with the Austrian educational system since the late 1980s, mainly because of the decrease in the number of students in lower- and intermediate-level technical and vocational training, the negative effects of a higher level of qualifications (overcrowded universities, a tendency towards overeducation and a lack of blue-collar workers complained about by the business community), and finally the great supply of specialists unable or unwilling to cross disciplinary boundaries. Furthermore, the highly centralised and bureaucratic structure of the Austrian educational system has made innovative and flexible decision-making difficult, resulting in the risk of a high degree of uniformity. During the last few years the system has undergone reforms and there are more to come.

The focus of secondary-level educational policy is on the internal reform of schools by granting them increased pedagogical, didactic, organisational, strategic and financial autonomy; improving the attractiveness of the dual system and the pre-vocational year; implementing special courses for talented students; integrating handicapped students into secondary education; and providing full-time education facilities geared to regional needs.

The Austrian post-secondary education system comprises universities, polytechnics (*Fachhochschulen*), academies and colleges. Student enrollment in post-secondary education has been increasing. Polytechnics train for a defined professional field, serving as a more flexible access route to post-secondary education. Tertiary-level educational policy goals, governed by the main principle of opening up the post-secondary sector to the broad population, emphasize the expansion of the *Fachhochschulen* sector; the organisational reform of universities; shortening the real duration of university studies; and reducing drop-out rates among university students.

Reforms undertaken in vocational education and training include (1) reforming the 9th year of the compulsory school ("polytechnical course"); (2) Vocational Highers (*Berufsmatura/Fachmatura*) that enable apprentices to gain a specific A level at the same time as they complete their apprenticeship training or after they have finished it, giving them access to universities or polytechnics; (3) training experiments such as *Dual Plus*, a new experimental model of the obligatory 9th school year where six different metal and electrical trades are combined into two basic occupations, with core subjects added in order to improve access to polytechnics; and (4) the establishment of *Fachhochschulen* to provide better access to all levels of the educational system.

Polytechnics and Vocational Highers may increase the attractiveness of vocational education and make Austria's rigid educational system more flexible. The new integrative examination, *Fachmatura*, opens polytechnics and university entrance to graduates from the apprenticeship scheme and vocational schools. This innovation also enables working adults with different educational backgrounds to enter polytechnics.

Finding New Strategies to Improve the Attractiveness of Post-16 Vocational Training in Austria

Walter Blumberger

Andreas Tabernig

Institute for Vocational and Adult Education Research
Johannes Kepler University of Linz

Barbara Birke

Alexander Kohler

Institute for Industrial Sciences
Vienna University of Economics

The changing demands of the labour market, Austria's integration into the European Union, and, above all, an inflexible educational system characterised by a high degree of centralisation and bureaucratisation, make necessary profound changes in and reforms of the Austrian educational system. In the following we will present the most important developments of the past as well as a future outlook and describe measures for the realisation of political and economic strategies.

The Austrian Vocational Education System

In Austria, vocational training comprises a wide range of part-time and full-time educational facilities, as well as initial education and training at night school. Vocational training is offered to students from the age of 14 on. There are three major forms of education available at the secondary level - apprenticeship training, which combines theoretical instruction at school with practical training on the job, and full-time intermediate- (lower-secondary-) and higher- (upper-secondary-) level technical and vocational training. General education is provided at the upper level of the academic secondary school. The post-secondary sector comprises universities, *Fachhochschulen*, academies and colleges.

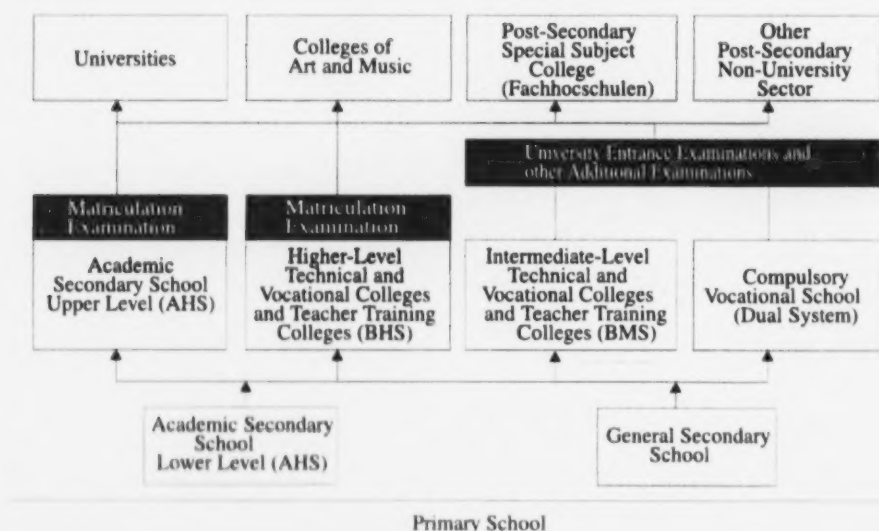


Figure II-1. *The Austrian Educational System* (Zentrum für Schulentwicklung, 1994)

The following paragraphs will give a short introduction to the types of school offering vocational training.

The Austrian Apprenticeship Scheme

Historical Development. The Austrian apprenticeship scheme was developed at the turn of the 20th century, when the early industrial production system was transformed into a system of industrial mass production based on the principles of Ford and Taylor. The historical model for the modern apprenticeship scheme were the medieval trade guilds and their *Meisterlehre* in which the education and training of the apprentices was entrusted solely to the Master (*Meister*). Theoretical lessons and school-based education were additional extras provided only minimally and unsystematically. However, at the end of the 19th century industrial work demanded more theoretically based skills and knowledge. The first factory school was established in 1890 and industrial companies were for the first time equipped with training workshops. Special training courses were designed for different levels and systematic teaching methods were developed.

Characteristics of the Austrian Apprenticeship Scheme. The overall characteristic of the Austrian apprenticeship scheme is that vocational training takes place in companies as well as in schools; the important thing is that apprentices spend about 80 per cent of their training time in companies and about 20 per cent in special vocational schools (*Berufsschulen*). In 1994 the apprenticeship scheme covered 238 different occupations.

Training Companies (Lehrbetriebe). According to the Austrian Vocational Training Act (*Berufsausbildungsgesetz*, 1969), companies may become training companies if they can satisfy the relevant authorities that they are able to teach and train the apprentices in the knowledge and skills required by law. There are special regulations concerning who are allowed to teach and train apprentices. The teaching and training abilities of a company and its legal competence in training affairs are acknowledged by the Chamber of Commerce, a fact which causes serious disagreements between the trade unions and the Chambers of Labour on the one hand and the Chamber of Commerce on the other.

Young people enter an apprenticeship scheme at the age of fifteen, after having completed a minimum of nine years of compulsory education. Apprentices work and learn on the basis of employment contracts and they are paid allowances (*Lehrlings-entsschädigung*) which are regulated by collective bargaining. Apprentices have to complete their regular training by taking practical and theoretical examinations.

Vocational Schools (Berufsschule). Vocational schools have the task of teaching the apprentices the basic theoretical knowledge of their occupation, broadening their general education (since 1975) and promoting their in-company-training. The main emphasis is put on vocational education proper (about 60 per cent of total school hours), involving practical training in workshops and laboratories. About 40 per cent of school-based education is given over to business management and general education.

This allocation of the syllabus has been a constant source of conflict between the trade unions, the Chambers of Labour and the Chamber of Commerce. While trade unionists call for more general education and training, the employers want the scheme to be more closely related to the needs of the companies.

Within the general outlines of the curricula, which are issued by the Ministry of Education, the governments of the Austrian *Bundesländer* (provinces) can adapt programmes to special regional needs.

In 1990 the time that apprentices have to be trained and educated at school was extended. Foreign-language lessons and instruction in computer-based technologies were added to the curriculum. As of 1993, the subject German Language and Communication must be gradually incorporated into vocational school lessons.

Taking into account the different ability levels of the apprentices, business management lessons and theoretical lessons are offered in two different sets. Vocational school instruction is organised in two different ways: (1) all the year round, one day or one-and-a-half days per week, (2) or seasonally, full-time, eight to twelve weeks a year.

Intermediate-Level Technical and Vocational Schools (Berufsbildende mittlere Schulen, BMS)

Intermediate-secondary technical and vocational schools provide an in-depth educational grounding and hands-on vocational training for specific occupations. Students are educated to skilled-worker level, although a high proportion of general education usually qualifies graduates for jobs at a slightly higher level. These schools offer training for periods lasting from one to four years. Successful completion (after studies of at least three years) of an intermediate-secondary technical or vocational college carries professional privileges (access to licensed trades). The BMS are offered both as full-time vocational schools and as colleges for working adults, giving instruction in agriculture and forestry, industry and trade, commerce, industrial, technical, arts and crafts, social work, health care and medico-technical occupations.

Higher-Level Technical and Vocational Schools (*Berufsbildende höhere Schule, BHS*)

Upper-secondary-level technical and vocational education leading to the Matriculation Examination that gives access to tertiary education is a special characteristic of the Austrian system. Higher-level secondary technical and vocational schools provide advanced general and vocational education (double qualification), which carries professional advantages (qualifying students for higher positions), as well as access to universities. Theoretical and practical vocational education is provided in school workshops and firms. The BHS have intensive and institutionalised relations with business and industry: many teachers are still involved in working life (managers, technical experts), and entrepreneur lobbies are invited to give their advice and create contacts between students and firms as potential future workplaces.

BHS graduates are in high demand on the labour market, even outside Austria, and provide a high proportion of Austria's company management staff. Experts consider BHS engineers (five years of secondary technical school plus three years of professional experience) to be of a standard perfectly adequate for most production departments.

Higher Education: University and Non-University Sector

The tertiary sector of the Austrian educational system is divided into universities, colleges of music and the arts, *Fachhochschulen* and other institutions of the non-university sector. The main principle of educational policy during recent decades has involved the opening of the universities to the broad population. University graduates have been estimated to represent one of the key factors of economic competitiveness and a basis for quality strategies.

Despite free access to universities, the percentage of the population with completed tertiary education is relatively low. Only about 7 per cent of Austrians between 25 and 64 years of age have taken a degree from tertiary-level educational institutions.

Fachhochschulen (FHS). While most European countries diversified their tertiary education systems years ago, in Austria this step was taken only at the beginning of the nineties. The creation of *Fachhochschulen* represents an important reform of the Austrian system with the aim of developing a more practically oriented and flexible type of vocational education. The objective of the *Fachhochschulen* is the provision of practical post-secondary training for a specified professional field on the basis of both scientific and practical knowledge. Studies should not take more than four years. The curriculum contains practical and theoretical elements, while the trainers are both university teachers and experienced practitioners.

Fachhochschulen aim to train students for technical, economic and interdisciplinary professions. Graduates should already be familiar with practical problems and the application of knowledge. Firms expect not only that the graduates of *Fachhochschulen* will be rapidly integrated into the specific labour process of their profession, but that they will also adapt more flexibly to changing working environments. Therefore their education should include not only subject-specific training, but also impart peripheral knowledge and skills which are linked with the everyday solving of professional problems (e.g. general economic understanding, management skills, personality development). At the moment there are two main approaches towards the development of FHS curricula: one is based on the need for high-level technical experts, while the other stems from the view that specialised knowledge should be supplemented with general abilities.

The flexibility of the Austrian educational system should be enhanced by the possibility of access to *Fachhochschulen* given to experienced professionals without the

Matriculation Examination, which would open them the way to the entire tertiary education system. Thus, the *Fachhochschulen* would gain importance as institutions for the further training of professionals and we could anticipate a mid-career upgrading of the labour force.

Fachhochschulen may be established by public and private organisations. Funding comes from provincial authorities, employers and other organisations. The federal government has no obligation to be financially involved, but it defines the legal framework within which the *Fachhochschulen* may develop their creative powers.

The Role of Post-16 Vocational Education in the Austrian Educational System in the Past and in Future

Quantitative Aspects of Post-16 Education

The last four decades have been marked by significant changes in the qualification structure and level of the population. As a result of changes in the education and training sector and the implementation of the educational policies of the sixties, there have been shifts in the level of formal qualifications possessed by the population.

On the one hand the proportion of those who have no vocational education has declined. During the last decades their share has been falling steadily. On the other hand a shift has taken place between different forms of education. Routes that once dominated education have lost some of their importance, while others have benefited from a tendency among students to aspire to a higher level of education.

As the following table shows, most students (approximately 80 per cent) who continue their education after having finished compulsory school enter vocational training institutions. Although the dual system is still the most important educational route, this sector and the intermediate-level technical and vocational colleges have both lost ground. By contrast, the numbers of students in academic and higher-level technical and vocational education have increased, with the vocational sector being dominant at the moment.

In the case of the BHS this increase in student figures is mainly due to the relatively short period of training needed to achieve vocational qualifications and gain access to the tertiary level. Students completing the BHS are acknowledged as highly competent in their specialised fields and are employed in professional positions, both in Austria and abroad.

Table II-1.

Students in the 10th School Year by Type of School (Zentrum für Schulentwicklung, 1996)

Type of school	Years	
	1985/86	1993/94
Academic secondary school (AHS) ¹	16.1%	18.0%
Vocational education	83.9%	82.0%
- Dual system	51.0%	47.1%
- Intermediate-level technical and vocational schools (BMS)	15.7%	12.7%
- Higher-level technical and vocational schools (BHS)	17.2%	22.2%

Apprenticeship Training: Structural Changes - Some Statistical Data

Decreasing Numbers of Apprentices. Between 1980 and 1993 the number of young people who took part in apprenticeship schemes decreased by a third, whereas the proportion of the 15- to 18-year olds grew 29 percent less. These figures show that demographic developments are only one reason for the decreasing participation of youngsters. Another trend is that the young prefer to enter higher education: between 1980 and 1993 the proportion of young people who decide in favour of higher education increased from 32.8 per cent to 53.4 per cent, whereas the percentage of beginners in the apprenticeship scheme decreased from 48.8 per cent to 44.6 per cent. This comparatively small drop is due to the fact that at the same time the proportion of young people without any higher education or vocational training has fallen significantly.

¹ AHS = Allgemeinebildende höhere Schule

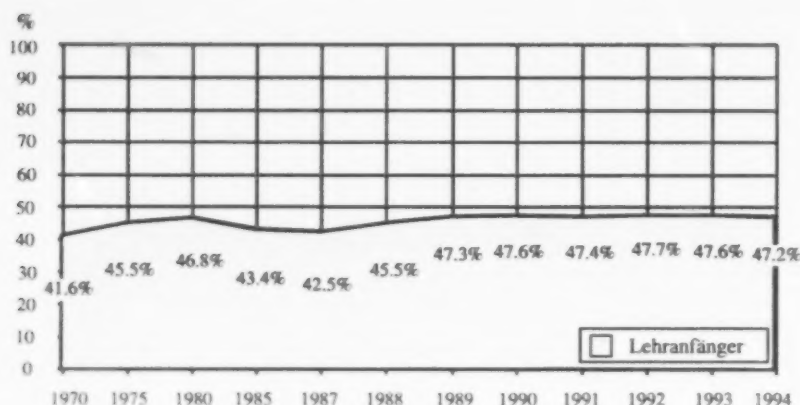


Figure II-2. *The Proportion of Beginners in Apprenticeship Training among Those Aged 15* (Arbeiterkammer, 1995)

Better Educated Beginners in Apprenticeship Schemes. For 20 years the educational levels of the young starting apprenticeship schemes have been rising: the proportion of beginners whose education is limited to the nine-year compulsory school has fallen from 35.6 per cent to 21.8 per cent. At the same time the proportion of beginners who have behind them at least one year of higher education has gone up from 15.1 per cent to 36.4 per cent.

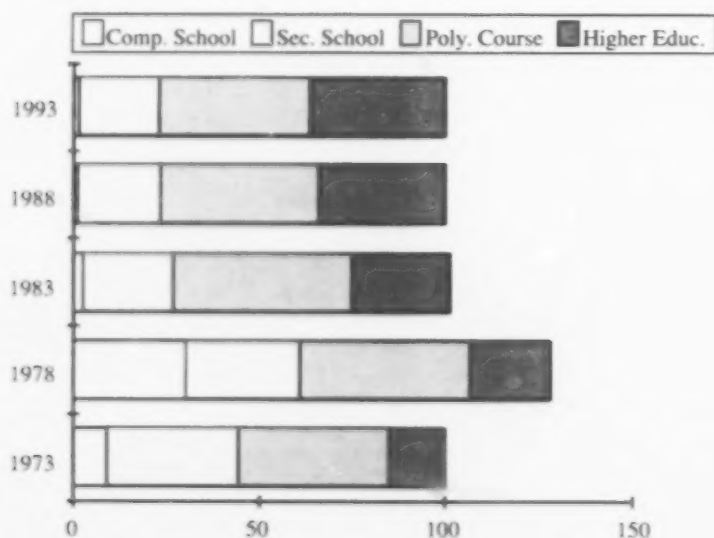


Figure II-3. *Better Educated Beginners in Apprenticeship Schemes*

Changes in the Age Structure. Whereas in 1973 21.5 per cent of the apprentices were 15 years old, in 1993 apprentices aged 15 formed only 15.1 per cent of the total while 30.4 per cent (1973: 19.3%) were 18 or older. This structural change is due to drop-outs who enter the apprenticeship scheme after failing in higher education. Longer training periods are only a marginal influence.

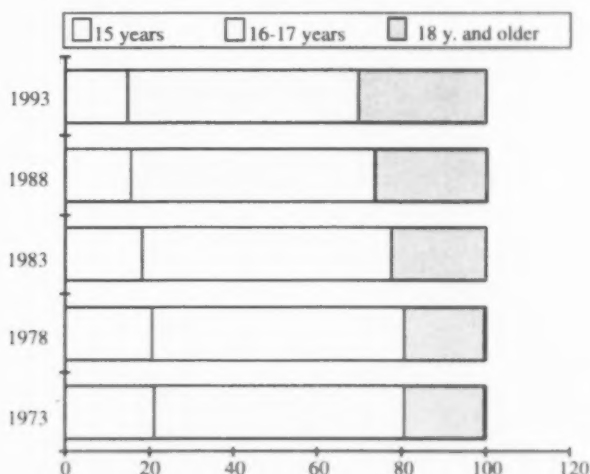


Figure II-4. *Changes in the Age Structure*

Falling Number of Training Companies. However, it must be reported that between 1973 and 1993 the number of companies offering vocational training facilities to the young has fallen by more than one third (34.6%). There are clear divergences between different branches of industry: the manufacturing industries lost nearly 45 per cent of training companies, commerce about 52 per cent. As regards economic change in modern societies, it must be said that the Austrian apprenticeship scheme has failed at least in the sense that it has been unable to compensate for the loss of apprenticeship placements in traditional branches of industry by creating new ones in modern industries.

Less Apprentices per Training Company. In 1993 there were on an average about 2.9 apprentices in one training company. Eighty per cent of the training companies do not employ more than three apprentices, while only 13 per cent employ five or more. According to figures from 1980, the proportion of this type of company amounted to about 16 per cent.

One of the reasons for this is that the former nationalised industries employed much more trainees than they needed for their junior staff, which turned out to be a benefit for small and medium-sized enterprises which employed fewer apprentices. Another reason is that there are no really new types of occupations within the apprenticeship scheme, especially as regards the field of informatics and new services. Companies prefer to engage persons with school-based qualifications and theoretical knowledge - this despite the fact that employers also complain that college education has little relation with the practicalities of working life and the requirements of actual jobs.

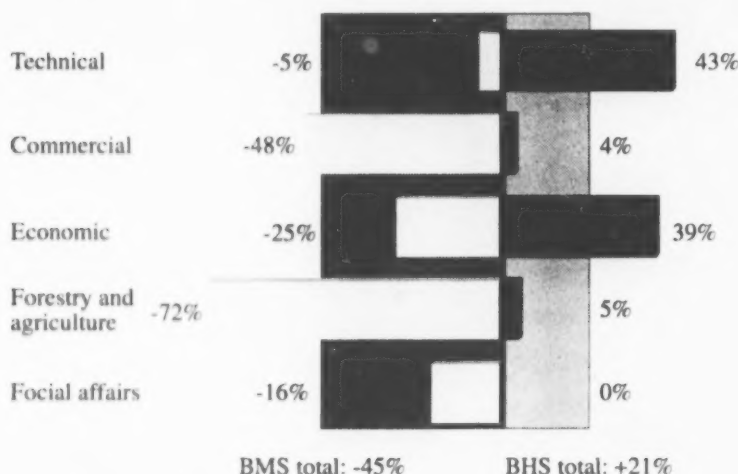
Intermediate- and Higher-Level Technical and Vocational Schools

Figure II-5. Changes in the Number of Students Attending the BMS and BHS, 1981/82 to 1993/94

The trend favouring higher education and the good prospects of BHS graduates on the labour market have made the BMS less attractive.

Since 1985/86 the number of students attending the BMS has been falling by some 4 per cent annually. Even though some of the schools in this sector have a four-year period of training, access to higher education is only possible after having passed further examinations. In addition, when people with a higher level of qualifications enter the labour market, it has a negative feedback on those with lower- and intermediate-level qualification. Those who suffer are BHS graduates on the one hand and those from the BMS and the dual system on the other.

Besides the decreasing beginner rates, which are also due to demographic factors (the lower birth rate of those who enter post-compulsory education), both levels of technical and vocational colleges are being confronted with the problem that compulsory education is often completed by attending the first year of the upper secondary level. The traditional way of finishing school by taking the pre-vocational year is becoming less important.

Accordingly, drop-out rates after the first year of intermediate- or higher-level education are rather high. Drop-out rates in the BMS sector illustrate both the quantitative extent of non-completion of studies and the factors influencing it. Drop-out rates are extremely high if there are no one-year programmes leading to a specific profession, forcing students to choose two- or three-year programmes instead.

The average rate of drop-outs in the total number of students in all types of BMS shown in Table II-2 reveals that more than a third of beginners leave school after one year of education (Federal Ministry of Education and Cultural Affairs, 1990-1994).

Table II-2.

Drop-Out Rates in Intermediate-Level Technical and Vocational Schools between the First and the Second Year (1992/93 to 1993/94)

Intermediate-level technical and vocational schools by sectors	Drop-out rate
Technology	33.7%
Commerce	37.2%
Economics	24.6%
Social work	21.4%
Agriculture and forestry	53.3% ²
Total	38.7%

Some of the drop-outs enter other types of school or step directly onto the labour market. A considerable proportion takes up apprenticeship training. In 1994 about a quarter of the beginners in the dual system came from intermediate- or higher-level technical and vocational schools. Only one out of four had finished the school they had attended before.

The dominating sectors of the BMS are commerce and technology and agriculture and forestry. Naturally, there are regional differences within the different sectors of education.

Table II-3.

Students by Sectors of BMS in the Second School Year 1993/1994³ (Zentrum für Schulentwicklung, 1995)

Students in different BMS sectors in the second school year	Students in per cent
Technology	23.9%
Commerce	30.2%
Economics	19.9%
Social work	3.5%
Agriculture and forestry	22.5%

Each year about 30,000 students pass the Matriculation Examination at one of the upper secondary schools. Technical and vocational upper secondary schools have experienced a high increase in rates of beginners during recent decades. Nowadays,

² The high drop-out rate is also due to the method of investigation.

³ Since drop-out rates after the first year of school differ within the categories, a comparison of the number of students in the second year of their education is more meaningful.

more than half of the graduates of upper secondary schools have received technical and vocational training. The five-year period of training comprises both general education and theoretical and practical knowledge in a specific subject. The provision of a double qualification (vocational training as well as the right to enter the tertiary sector) has been the main factor contributing to the great success of the BHS and can be considered an advantage as compared to the AHS sector.

The most important types of BHS institutions are technical and commercial colleges and colleges for domestic economy, with the latter two dominating (with the exception of Vienna).

Table II-4.

Graduates of Higher-Level Technical and Vocational (Upper Secondary) Schools, Average of the Years 1983 to 1993 (Zentrum für Schulentwicklung, 1995)

Type of upper secondary school	Percentage
Higher-level commercial colleges	39.2%
Higher-level colleges of domestic economy	15.0%
Higher-level technical and trade colleges	45.8%

Vocational training in its traditional sense was directly determined by the qualifications gained from the process of work and production. According to this orientation, the didactic focus of education was the future occupation.

But an ex-ante definition of required qualifications is becoming more and more difficult. The straightforward orientation towards vocational training leading to a specific field of activity has turned out to be partially unsuitable. The same is true of the idea that qualifications acquired through initial vocational training will be sufficient to last a whole working life. Flexibility, key qualifications and lifelong learning are becoming more and more important.

A high degree of specialization is characteristic mainly of higher-level technical and vocational education. The gap between the individual advantages and public benefits of education is likely to widen. Due to rapid technical, technological and socio-economic development it is becoming more important to impart basic knowledge as well as key qualifications. The limitations of upper secondary technical and vocational schools are therefore seen in their high degree of specialisation. Enterprises are asking for a broader range skills, which include in-depth special engineering qualifications as well as a combination of technical, business and management skills.

In most other European countries the decision concerning a student's future educational career has to be made at the age of fifteen or sixteen. In Austria, vocational education starts in grade 9 (age 14). At this stage, students have to determine whether they want academic or vocational education. If they choose vocational education, this is the point at which they also have to decide on their future occupation. Due to the relatively high degree of specialisation in the BHS, students thus have to make quite specific decisions at a rather early age.

Outlook

Numerous analysers have been working on future trends in the numbers of people studying at different types of school. The most important developments that may be anticipated are as follows:

The increase in the number of students striving for higher secondary general or technical and vocational education is likely to continue. In 2005 more than half of all students will attend one or the other of these two types of school.

The technical and vocational sector will dominate the higher-level secondary schools (the AHS and BHS). The figures for beginners entering academic upper secondary schools are expected to go down or at least level off.

The upper academic sector could gain importance due to the implementation of the *Fachhochschulen*. A shorter period of training at academic schools could attract those who intend to go to *Fachhochschulen* later on. The specialised knowledge and skills taught at the BHS must be acknowledged by allowing the students to continue at a *Fachhochschule*.

Interest in intermediate-level technical and vocational schools will decrease further. By 2005 their share of the post-compulsory sector will have gone down by 25 per cent.

The downward trend in the numbers of beginners taking up apprenticeship training is also likely to continue. The proportion of students attending apprenticeship training will fall by 30 per cent by 2005. This decrease will be the most significant regression within the Austrian educational system.

The pre-vocational year will also lose some of its importance when attendance decreases by some 20 per cent by the year 2005.

Access to Higher Education

The number of students enrolling at universities has increased enormously since the beginning of the seventies. In the academic year 1993/94 there were about 205,000 regular students at Austrian universities, while just under 14,000 students were enrolled at non-university post-secondary institutions (with another 4,700 in colleges of music and art) in 1990/91. At present, about 20 per cent of each age group starts a university study programme. The Austrian tertiary sector is plagued by overcrowded universities, high drop-out rates, protracted studies and obsolete structures and infrastructures.

Both the AHS and the BHS have been receiving more students interested in taking up university studies. As it is the task of the upper level of the AHS to give students a comprehensive and in-depth general educational background and to prepare them for university studies, the share of graduates enrolling at universities is accordingly high. Their proportion in the total of beginners is about 60 per cent. About 40 per cent of the graduates of technical and vocational schools begin university studies.

Table II-5.

Access to the Tertiary Sector by Attained School, 1970-1991 (Bundesministerium für Wissenschaft, Forschung und Kunst, BMWFK)

Attained School	Year				
	1970	1982	1989	1990	1991
AHS	62.7%	70.5%	70.7%	72.7%	72.9%
BHS	25.1%	36.8%	37.3%	39.9%	40.8%
BHS technical	24.9%	41.8%	41.7%	44.3%	45.4%
Total	51.5%	56.2%	55.6%	57.0%	56.6%

The Matriculation Examination, a special university entrance examination (*Studienberechtigungsprüfung*) intended to open up university studies to a broader range of people, was introduced in 1986. Graduates from vocational training facilities which grant no Certificate of Matriculation are entitled to commence university studies after having successfully passed the examination. Although the number of candidates from the dual system and intermediate-level schools who intend to take up university studies has been rising during recent years, their share in the total of beginners is still very low.

Table II-6.

Beginners at University by Qualification in Autumn 1992/93 (BMWFK, 1994)

Qualification	Percentage of graduates
AHS	56.7%
BHS	39.3%
University entrance examination	0.5%
Non-Austrian Matriculation Examination	1.9%
Other	1.6%

With regard to the question of European integration, overcrowded universities and the aim of attracting people without upper-secondary-level certificates to the tertiary level, the last few years have seen a growing discussion about the introduction in Austria of post-secondary special-subject colleges or *Fachhochschulen*, finally established in 1993 (Federal Act on Study Programmes at Post-Secondary Special-Subject Colleges). The first courses were offered in 1994. At present, there are twenty *Fachhochschulen* study programmes, on which about 2,000 students are enrolled.

Although a main objective of the *Fachhochschulen* sector is to make the tertiary level of the educational system more accessible by opening higher-level education to people without the Matriculation Examination, the students are mainly graduates from higher-level academic and technical and vocational colleges. Apparently additional examinations are obstacles to those aspiring to enter higher education. It is obvious (as can be observed at some *Fachhochschulen*) that preparation classes have to

be offered in order to attract the new target group. *Fachhochschulen* featuring evening or weekend classes for employed people will also enhance the attractiveness of the new educational facility for post-secondary studies.

Several analyses of the supply of and demand for the educational services offered by the *Fachhochschulen* carried out by IWI in recent years have proved that both graduates from higher-level colleges and working people were highly interested in studying at *Fachhochschulen*. Graduates both from the dual system and the BMS find the new educational facilities an attractive and meaningful way of achieving higher qualifications. Additionally, it has turned out that those who had no access to university studies were even more interested in *Fachhochschulen* than their colleagues with Matriculation Certificates (A-level certificates). Naturally, most of them (some 90 per cent) would prefer to attend evening classes while being able to remain in full-time employment.

The Role of Vocational Training on the Labour Market

The trend towards higher-level qualifications is paralleled by changes that have taken place on the labour market during the past ten years. The proportion of working people without vocational education has been decreasing significantly by some 25 per cent. In 1991 graduates from apprenticeship training accounted for 40 per cent of the working population, making them the most important group on the labour market. The share of graduates from the BMS has risen by just under 10 per cent and is now at the level of 13 per cent. There has been a shift between graduates from the AHS and those from the BHS, accounting for 4 and 6 per cent respectively in 1991. Despite free access to universities, the percentage of the working population in tertiary education is relatively low (5 per cent).

Table II-7.

Working Population by Highest Educational Level, 1981 and 1991 (Arbeiterkammer, 1995)

Educational level	1981	1991
University	3.9%	5.4%
Other post-secondary sector	0.8%	1.8%
BHS	3.7%	5.6%
AHS	3.7%	4.3%
BMS	11.8%	13.0%
Apprenticeship training	35.5%	40.5%
Compulsory school	40.6%	29.4%

There is a clear correlation between level of qualification and rate of unemployment. Worst placed are people who have finished education after the compulsory school. Unemployment is also relatively high among graduates from apprenticeship training schemes. Of those who have passed the dual system, 6 out of 10 are un-

employed. Graduates from the BMS and BHS are equally afflicted by the problem of unemployment. The lowest unemployment rate can be observed among the academic population.

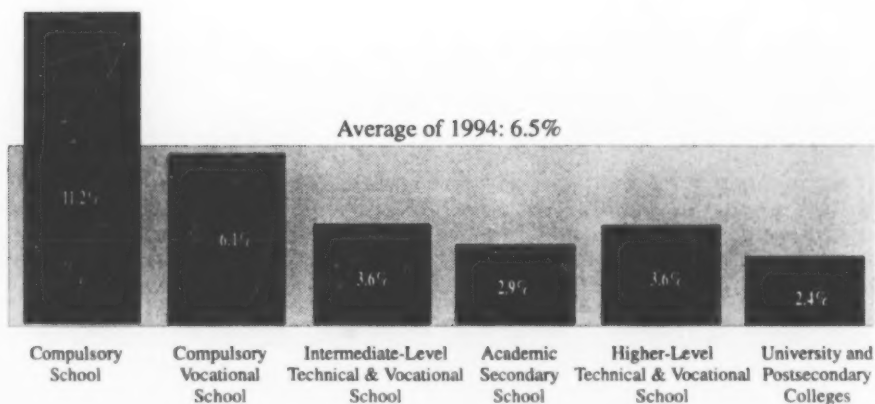


Figure II-6. *Rate of Unemployment by Highest Level of Qualification, 1993 and 1994*
(Österreichisches Institut für Berufsbildungsforschung = ÖIBF, 1995)

Educational Policy: Objectives and Strategies

There has been growing dissatisfaction with the Austrian educational system since the late 1980s, mainly because of a decrease in the number of students in lower- and intermediate-level technical and vocational training, the negative effects of a higher level of qualifications (overcrowded universities, a tendency towards overeducation and a lack of blue-collar workers complained about by the business community), and finally the great supply of specialists unable or unwilling to cross disciplinary boundaries. Furthermore, the highly centralised and bureaucratic structure of the Austrian educational system has made innovative and flexible decision-making difficult, resulting in the risk of a high degree of uniformity. However, during the last few years the system has undergone reforms and there are more to come.

The coalition agreement (since 1986 Austria has been governed by a coalition of the same political parties) of 1994⁴ between the governing parties illustrates the

⁴ Working programme of 1994. Meanwhile the government has been dissolved and is now being re-formed. It is very probable that the same political parties as before will form the next government. Therefore it can be expected that its political and economic objectives will be about the same.

basis for current and future political and economic strategies and gives the background for reforms already carried out (extract):

- an internal reform of schools (autonomy) especially concerning contents (curricula) and organisational aspects;

- improving the attractiveness of both the dual system and the prevocational year by the implementation of reforms extending to 1996;

- improving the prospects of graduates from the dual system by supporting additional and multiple qualifications;

- organizing special courses for talented students;

- integrating handicapped students into secondary education;

- increasing the supply of full-time education facilities geared to regional needs;

- expanding the *Fachhochschulen* sector;

- reforming university organization;

- shortening the actual duration of university studies and reducing drop-out rates.

Towards a More General Vocational Training - Latest Developments in Apprenticeship Training

Reform Activities. The social partners (*Sozialpartner*) are engaged in controversial discussions on the dual system of the Austrian apprenticeship scheme. The main points of the debate are:

- the need to improve the attractiveness of the scheme because of a lack of young people wishing to take up an apprenticeship;

- replacing specialized in-company vocational training by a more general vocational education and training; in other words, emphasizing the provision of key qualifications independent of a given company's needs;

- reducing the number of occupations in order to allow more flexibility;

- facilitating transition from the apprenticeship scheme to other vocational training schemes like the *Fachhochschule*.

Besides this there is a discernible qualitative difference between the standard of vocational training given by large companies on the one hand and by small and medium-sized enterprises (SME) on the other. At the very least it means that apprentices coming out of the SME have less favourable opportunities and career prospects.

Reform of the 9th Year in the Compulsory School. The 9th year in the compulsory school ("polytechnical course") has the aim of informing pupils about different occupations and training possibilities. The pupils should be introduced to special vocational training by special vocational preparation courses taken at the very beginning of the 9th school year. On the other hand the general education of the young should as far as possible retain its present standard and breadth. To achieve these aims schools should cooperate with local enterprises, and there are plans for giving teachers special training. Additional compulsory subjects (e.g. a second foreign language or marketing) should ensure a better general education. The social partners and the Government want to introduce this programme in the upper secondary level and create a new polytechnical course.

Many educational researchers are very concerned about this conception, mainly for the following reasons: (1) The reform would bring the point at which young people must decide about their future education forward to the age of 14, which makes no sense in view of the rapid changes characteristic of our time; (2) The reform would bring more entrepreneurial influence to bear on the school, which may not be in the interests of young people; (3) It would be necessary to give much more instruction in basic knowledge, mainly in sciences (mathematics, etc.) and key competencies.

Training Experiments - Dual Plus: a New Apprenticeship Scheme in the Metal and Electric Sector. This new experimental model of the obligatory 9th school year (poly-technical course) was developed in Upper Austria, one of the nine *Bundesländer* of Austria. Its aim is to make it easier to start an apprenticeship and to help students gain a better vocational training and education through a more sophisticated and demanding curriculum.

To achieve this goal six different metal and electric trades are combined into two basic occupations: mechatronics and energy technology. As compared to the traditional curriculum, the proportion of general and business management subjects was increased by about 10 to 15 percent. Much emphasis is put on German and Mathematics as well as on English and Electrics which should make it easier for apprentices to enter *Fachhochschulen* later.

Vocational Highers (Fachmatura). The aim of this concept is to enable apprentices to gain a specific A level (*Vocational Highers*) at the same time as or after they have finished their apprenticeship scheme. These *Vocational Highers* would allow them to study at universities or polytechnics (*Fachhochschulen*).

The concept involves a planned 1,000 hours of teaching additional to the regular apprenticeship teaching hours (which seems quite a lot and a great strain for young people); 500 hours should be finished during the apprenticeship, 500 hours afterwards. It is intended that 60 per cent of the lessons will deal with general vocational training and 40 per cent with business management or technological subjects.

Transition to Fachhochschulen. At present it is not possible for young people who have finished an apprenticeship to enter the *Fachhochschulen*. Only about 7 per cent of the students in *Fachhochschulen* are former apprentices. Therefore special courses are offered to allow them to pass the entrance examinations. Some statistical data show that it is possible to increase the proportion of students enrolling at *Fachhochschulen* after completing an apprenticeship by up to 30 per cent.

Summary. All the reform activities described above are intended to facilitate access to higher education for people who have finished an apprenticeship. This indicates that Austria is well aware of the sociotechnical changes that have taken place in our society. But for historical, political and legal reasons, in Austria it takes a long time to bring about changes in the educational and training system.

Current Strategies and Reforms to Improve the Attractiveness of Post-16 Vocational Training

School Autonomy. Starting with the school year 1993/94, the 14th Amendment to the School Organisation Act has enabled school community committees and school forums to adopt autonomous regulations.

The new stipulations make possible pedagogical, didactic, organisational, strategic and financial changes and challenges, with curricular autonomy being the most important factor within the framework of this analysis.

In intermediate- and higher-level secondary technical and vocational schools autonomy will include a certain degree of freedom regarding the curriculum. Curriculum regulations lay down compulsory subjects with the same contents to be taught

in all schools of the same type. In addition to this, a school can autonomously determine a part of its curriculum. Within the general educational objectives and the objectives of the type of school, other compulsory subjects as well as seminars, optional subjects and special instruction courses can be provided. By combining relevant subjects it is possible to emphasize specific fields of education. The new curricula are supposed to foster practical working procedures and key qualifications, such as communication and teamwork skills and social and personal skills.

One of the main characteristics of the new curricula is the tree structure which avoids premature specialisation. Subject areas (e.g. Electronics) are meant to provide a common basic education. Specialisation is to take place during the last two years of education when the student is given a range of choices between different fields. This aspect is relevant above all in technical education, previously characterized by a high degree of specialisation (in the school year 1994/95 there were 250 different types of technical schools).

In other areas, where specialisation has been nearly unknown, the new system will make possible the establishment of specific fields of education (the commercial and social sector).

A main objective of granting autonomy to the schools is the promotion of demand-oriented education. Curricula can be flexibly adapted to the individual needs of the students, to the demands of the labour market, as well as to regional requirements. Furthermore, schools face the challenge of forming their own profile, which increases the responsibility of all those involved and forces them to realize the importance of economic efficiency.

Case studies carried out at several technical and vocational schools showed that the challenge arising from the possibility of autonomous decisions was eagerly accepted (Zentrum für Schulentwicklung, 1996). The participation of the groups involved in decision-making turned out to be varied. The teaching personnel was highly motivated in all processes, whereas students and parents behaved rather indifferently, due to the traditional and hierarchical structures of the old regime. Furthermore, it has turned out that schools in the BMS sector did not make much use of the freedom implicit in the powers of making autonomous decisions.

Fachhochschulen - Opening the Tertiary Sector to the Dual System and Intermediate-Level Education. As already stated before, a main objective of the *Fachhochschulen* concept is to provide better access to all levels of the educational system. The decreasing numbers of students entering the dual system and the BMS sector are also due to the fact that there was no route from there to higher education until the middle of the 1980s. The BMS and apprenticeship training are often said to be dead ends. Latest statistics have proved that the possibility of entering the tertiary sector by passing the *Studienberechtigungssprüfung* is not enough.

In order to open up this new educational sector successfully, several strategies are being pursued, some of them highly disputed.

Raising intermediate-level technical and vocational training to the *Fachhochschulen* entrance level is a common goal. As yet no concrete measures have been taken to enhance the status of intermediate-level education. The suitability of introducing formal grades for BMS graduates (and also for those of the dual system) is highly disputed, as education provided in apprenticeship training and intermediate-level training is - as some say - not supposed to prepare students for higher-level studies. The lack of scientific basic knowledge as well as of linguistic competence (scientific vocabulary, technical terminology and foreign languages) would be the main handicaps.

Introducing general elements into the curricula as well as delivering key qualifications - as has already been done - may be considered a first step.

Preparatory courses for candidates without the Matriculation Examination (already offered at a *Fachhochschule* in Upper Austria) have proved successful and could be offered on a wider scale.

Offering *Fachhochschulen* studies for employed people who have acquired the relevant skills through vocational training (apprenticeship training, BMS) and practical working experience is another challenge. In autumn 1996 the first *Fachhochschulen* for employed people will be established in Austria. Their capacity to attract the new target group will have to be observed.

Programme of Work

Our future work within the project on Post-16 Strategies will focus on curriculum reforms in intermediate- and higher-level vocational education and apprenticeship (the dual system) with the aim to improve demand-based knowledge and skills, with special attention paid to the access to higher education (e.g. *Fachhochschulen*). Another focus will be analysing re-qualification (upgrading) facilities for working people within the post-secondary sector.

1. evaluating current educational experiments;
2. examining a selection of school experiments in different fields of secondary and post-secondary sector (technical, commercial, etc.):
 - analysing specific curriculum development projects;
 - analysing the effects of school autonomy;
 - interviewing headmasters, students and teachers;
3. organizing a conference of vocational training experts:
 - representatives of the analysed schools,
 - representatives of ministries (education / science / economic affairs / social affairs),
 - regional authorities,
 - social partners,
 - international experts;
4. evaluating the strategies developed and presenting suggestions for further educational policy measures.

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Post-16 Strategies and the Austrian Reforms

Barbara Birke

Institute for Industrial Sciences
Vienna University of Economics

Walter Blumberger

Andreas Tabernig

Institute for Vocational and Adult Education Research
Johannes Kepler University of Linz

The reform strategies selected for discussion here are linked with different levels of training and education in Austria. The establishment of post-secondary-level colleges (*Fachhochschulen*) and the planned *Berufsmatura/Fachmatura* (Vocational Highers) could help both to increase the attractiveness of vocational training and to make its rigid structures more flexible. At the same time an innovation of this kind would provide a substantial impetus to the professionalisation of in-company careers.

Both reforms are intended to contribute to making vocational education more attractive. Moreover, their parallel introduction is expected to reinforce this effect.

Reform and Parity of Esteem

Berufsmatura/Fachmatura should open university entrance to graduates of the apprenticeship scheme and of secondary vocational colleges by the age of 19. Vocational Highers integrate reform ideas involving the 9th year of the compulsory school ('polytechnical course'/pre-vocational school) and vocational schools.

Vocational Highers will be an equivalent to the A levels (*Matura*) of upper secondary general schools (*Gymnasium*). Parity of esteem will be established between graduates of intermediate- and higher-level secondary education. Briefly, the objectives of *Berufsmatura/Fachmatura* are as follows:

- increasing the numbers of beginners entering intermediate-secondary institutions (a sector that has become less attractive during recent years);
- introducing formal grades;
- improving the recognition/social prestige of intermediate-secondary education;
- improving the horizontal and vertical permeability of the Austrian educational system including opportunities for university entrance.

At the post-secondary level, the measures intended to contribute to parity of esteem consist of opening up this sector to a broader target group.

Graduates from intermediate-level vocational schools and the dual system are entitled to enter post-secondary education after having successfully passed additional exams.

Berufsmatura/Fachmatura will make access to the post-secondary sector easier. Graduates with *Berufsmatura/Fachmatura* will be entitled to take up further professional studies at *Fachhochschulen*.

In this connection, the main objectives of the *Fachhochschulen* are:

- opening up the post-secondary sector for people without A-level qualifications;
- opening up the post-secondary sector for employed people;
- enabling students who already have professional experience to complete their studies more quickly.

Reform and the Labour Market Context

Impact on the Labour Market Qualification Structure

The structure of qualifications obtaining on the labour market could be successfully improved by giving a broader group of people access to post-secondary education. At the moment the Austrian labour market is characterised by a relatively low proportion of employees who have completed post-secondary education.

The reforms could increase the proportion of employees with academic degrees by advancing graduates of intermediate-level institutions to the post-secondary level on the one hand and by opening the post-secondary level for this target group on the other. In addition to benefiting those who will enter *Fachhochschulen* directly after having finished their secondary-level education, the new educational facility will be important within the framework of vocational training for adults. Offering *Fachhochschulen* to working people will also make possible the acquisition of diplomas at a later date.

Consideration of Labour Market Requirements

Changing qualification requirements are taken into consideration in the design of *Berufsmatura/Fachmatura*. Along with exams in general subjects such as Mathematics, German language and English language, students are required to take a special compulsory exam related to the specific occupation they are studying for.

Fachhochschulen are intended to provide qualifications, based on both scientific and practical knowledge, required for a defined occupational field. The curriculum contains practical and theoretical elements, while the trainers are university teachers as well as experienced professionals.

Labour market requirements are taken into account by integrating the labour market into the organization of the *Fachhochschulen* so that the labour market, too, has influence on their curricula.

Company training units are part of the education offered at *Fachhochschulen* as much as they are part of apprenticeship training. The students are thus able to gain practical experience while studying.

The *Fachhochschulen* system is expected to make possible the two-way transfer of knowledge between teaching and practice.

Reform and the Educational System

The planned *Berufsmatura/Fachmatura* may bridge the gap between exclusively job-related vocational training and higher general education or higher vocational colleges (secondary technical and vocational colleges) regarding university entrance.

It is expected that this will increase the attractiveness of the vocational training system, especially that of the apprenticeship scheme because there will be a broader scope of vocational opportunities and because the students will be able to respond more flexibly to the requirements of the labour market and benefit from increased occupational mobility.

Reforms of Austrian secondary education will not lead to new educational facilities but they could contribute to a stronger demand for intermediate-level education. The introduction of *Fachmatura* and *Berufsmatura* accord with the trend towards tertiary-level studies, and they could improve the appeal of educational institutions which have lost some of their importance during the last decades.

The establishment of *Fachhochschulen* has led to profound changes in the structure of post-secondary education. The relatively small educational sector functioning at this level will be enlarged over the next decades by the provision of educational facilities offering scientific education that is, simultaneously, oriented towards the needs of the labour market.

On the other hand, such developments may be expected to affect universities. It is very probable that - given a sufficient provision of *Fachhochschulen* studies - the number of students applying for university education will decline in the long run while as a whole the number of students in post-secondary education will increase.

The new educational sector will influence even more profoundly such other institutions of post-secondary education as *Fachakademien*, *Kollegs*, *Aufbaulehrgänge*. Due to the small post-secondary educational sector in Austria, such vocational training facilities have been established with varying success. Most of them are characterised by short training periods and a certain lack of recognized status, primarily in terms of social prestige. Furthermore, degrees granted by these educational facilities are not acknowledged outside Austria. Foreign recognition of Austrian degrees is becoming important because of Austria's integration into the European Union. The education given by *Fachhochschulen* is acknowledged as higher education both inside and outside Austria.

Another challenge facing *Fachhochschulen* is the fact that they are to provide their students not only with skills belonging to a specific vocational field - as is true of most of the other post-secondary training facilities in Austria - but also with a deeper understanding of a professional field, not to mention social competencies and basic knowledge.

Reform and Local Networking Between Schools and Between Schools and the Labour Market

With the establishment of *Berufsmatura/Fachmatura* in Austria, pupils who attend the 9th year of the compulsory school ("polytechnical course"/prevocational school) should acquire more experience related to job requirements. There are plans to set up networks linking vocational schools, in-company training units, continuing training centres, companies and colleges (*Fachhochschulen*).

Networking with the labour market is an important topic with regard to *Fachhochschulen* as their teachers are professionals with access to up-to-date knowledge in a specific professional field. Secondly, part of the training programme has to be completed in enterprises.

Fachhochschulen are often established on the initiative of labour market units (technological centres). Additionally, they are often located in the vicinity of or accommodated on the premises belonging to enterprises or technological centres. Equipment of a high technical standard is available for use in theoretical and practical instruction.

Reform and Teacher Education and Teacher Cooperation/Support

The planned Vocational Highers require a reform of teacher education. Until now the training of teachers for vocational schools, polytechnical courses and higher-level secondary schools has been strictly separate and thus out of phase with the new accessibility within the Austrian educational and vocational training system. Moreover it is necessary to integrate the in-company trainers of the apprentices into these reform efforts.

Teaching staff at *Fachhochschulen* has to include both academic personnel and practising professionals. At present, there are no teacher education facilities for the teaching staff of *Fachhochschulen*. It is impossible to determine as yet how the new educational institution will affect teacher education.

Reform and Qualifications, Flexibility of Student Programmes and Curriculum Development

The exams making up the *Berufsmatura/Fachmatura* are organised into a modular system with different levels. It is up to the students how they prepare for examinations. The board of examiners can consist of regular school teachers or of teachers from adult education institutions. Quality improvement systems have to be established. All qualifications, not only those acquired at school, should be accredited.

In *Fachhochschulen* the curriculum is largely fixed so that it is not possible to construct individual study programmes. Special subjects may be chosen by the students within a given framework.

The concept of *Fachhochschulen* is designed to provide social competencies as well as what are termed key qualifications in addition to knowledge of the student's specific professional field. Primary emphasis is being placed on languages, management competencies and interdisciplinary education. The main goal of the *Fachhochschulen* education is to train practically oriented, highly qualified personnel who can be flexibly integrated into the labour market and who are able to adapt to new technological requirements and the demands of the labour market.

Current debates about academic and vocational learning in England and Wales revolve around three models. The first is the existing multi-track system that reflects the traditional deep division between academic and vocational learning, closely linked with social divisions. The others represent two attempts to modify or transform the traditional system: an overarching framework approach continuing a strong voluntarist tradition in educational policy and an unified system approach that calls for long-term restructuring of the secondary education system.

Political and economic background factors since the 1980s include the high unemployment in EU countries in general and the collapse of youth labour market in the UK; pressures from global competition and the concomitant need for a highly skilled national workforce; plans by national governments for reducing public expenditure; the peculiarly English policy of treating education and training provision as a market; and a qualification-led educational reform strategy.

Academic and vocational education in England and Wales is in a dual crisis. The academic route or A levels caters for a minority, induces premature specialisation and creates negative attitudes towards vocational alternatives. At the same time, A levels have been hotly defended by successive Conservative governments and by those on the political Right, who have represented them as an educational gold standard. This campaign has so far succeeded in dismissing any significant change as dilution of educational standards. Such attitudes also reflect low expectations of the educational potential of the majority of students.

Vocational education, on the other hand, has succeeded in attracting only a minority of the cohort, mostly at lower qualification levels and, of late, has poor successful completion rates. A bias towards lower-achieving students means that the vocational route is invariably seen as an option for those who have not succeeded in the academic route and therefore always as a secondary choice. The vocational route also suffers from an irony of being regarded as narrow, because it does not include general education, and at the same time as not sufficiently specialised in the skills and knowledge that are offered. The lack of general education and technical specialisation in all the English traditions of vocational education continues to lead to problems of progression both to higher education and to some forms of employment, e.g. in the field of Engineering.

In a historical perspective since the late 1970s, it is useful to distinguish five periods during which the academic route has expanded and diversified and fragmentary vocational provision was gradually being replaced by a national system of vocational qualifications. At the same time, the system remains marked by division and the proliferation of certificates, some of which have little currency and which both students and employers find increasingly difficult to understand.

Until fifteen years ago the vocational route was largely restricted to those on technician and craft apprenticeships and lacked any strong full-time technical programmes. By the early 1980s, however, the traditional apprenticeship was in sharp decline. It was in part replaced by

short-term training programmes such as the Youth Training Scheme which was aimed more broadly at all school-leavers who would otherwise be unemployed.

From the early 1980s the vocational route was the focus of continuous curriculum reforms. They were often short-term and always liable to be overtaken by new initiatives and led to a succession of new qualifications, often with conflicting and even contradictory purposes. By the mid-1990s vocational education in England and Wales consisted of two tracks - broad vocational courses (increasingly GNVQs) and occupationally-focused NVQs. To summarise what remains a confusing picture, the vocational curriculum is fundamentally split between three traditions: a weak technical tradition; a pre-vocational tradition, in the 1990s reflected increasingly in GNVQs; and a narrow competence-based and occupationally-focused approach to work-based learning (NVQs).

The problems of this mixed and unplanned provision in England and Wales reflect a strong voluntarist tradition in which the State makes no demands on employers to have a role in training or to invest in training even if they recruit 16- and 17-year-olds. Coupled with this is the continuing lack of demand for highly skilled employees from employers. There is also no clear relationship between qualifications and employment opportunities, with the obvious consequences for the motivation of learners. The traditional English unpopularity of vocational qualifications has remained, despite considerable sums of money being spent on marketing and implementation. Government policy over the last five years has involved entrenching and limiting access to the academic route and accentuating the differences between it and the vocational alternatives.

Dissatisfaction with many aspects of the triple-track system has grown since the beginning of 1995, with the voices arguing for a unified system to replace the three tracks growing louder still. Parallel with this there is a growing recognition of different approaches to unification and support for a step-by-step or incremental strategy which tries to bring together the different unifying approaches.

The two reform models represented by framework and system approaches confront different weaknesses in the present triple-track system. Both can be seen as unifying in the sense that they oppose the current system of divisions between academic and vocational tracks. Both reflect attempts to shift the balance from the qualification tracks towards the system or framework of which they are a part.

Broadly speaking it is useful to see framework approaches as arising from dissatisfaction with the provision for vocational education; they tend to reflect the concerns of those involved in further and adult education and of the potential "clients" of the new universities. The framework approach is a typically English innovation in that it is explicitly voluntary. It also follows the English tendency to want to add further complexity rather than replace and reform existing structures. This produces a sense that rigidities are being broken down while avoiding the sensation of bringing about significant and politically unacceptable change. Accordingly, frameworks have been able to do little to shape the fundamental division within the qualifications system and the curriculum.

System approaches, by contrast, have focused on the narrowness and exclusiveness of the A-level academic track and its high failure and drop-out rates. They have also tried to show how technical and vocational provision could be integrated with a reformed academic track. System approaches are distinct from framework approaches in that they propose the replacement of existing qualifications (including A levels). There has been growing support for this approach in the last few years. However, it has a number of weaknesses, the most serious of which is resistance particularly by the Government. And unlike the framework approach, it goes against the grain of a number of deeply embedded features of English post-compulsory education.

Further divisions are an inescapable outcome of the current Government's educational and economic policies. If a non-conservative government (Labour or Labour/Liberal Democrat coalition) is elected, the possibilities are more open but not automatically better; they depend crucially on the educational policies adopted. Convergence could result from modularising academic and vocational tracks within a common framework and exploring common principles of assessment.

In the long term these convergences and a more supportive context could be a basis for an unification of academic and vocational learning. As part of the Learning for the Future Project, the English partners are exploring a step-by-step approach to unification. The initial emphasis will be investigating the role of frameworks to maximise consensus.

The issue of bridging academic and vocational learning is an ideal case for collaborative and comparative research. Investigating the strength and weaknesses of each national system will enable us to identify how far each is shaped by its own history and how far by global changes which shape us all. Also, each national system will have weaknesses that have stimulated innovations which could have wider relevance.

Academic and Vocational Learning: Division, Framework or Unified System

Michael Young

Ken Spours

Post-16 Education Centre
Institute of Education
University of London

Introduction

Post-16 provision in England and Wales has been characterised as having a divided and too specialised system of qualifications and a diffuse and complex system of delivery (IPPR, 1990). It is these weaknesses and the problem of how to deal with them, which as far as we know are not experienced, at least not to the same extent, in other EU countries, that explain the peculiarly strong focus on unification in England and Wales and also the fierceness of the resistance to it.

In this paper we attempt to explain the peculiarities of the debate about the academic/vocational divide in England and Wales and the various perspectives from which those contributing to it argue for the unification of post-16 curriculum and qualifications. The paper has six sections:

1. Introduction

The introduction places the debates about academic and vocational learning in England and Wales in a wider international context.

2. Academic and vocational learning in England and Wales

This section provides an analytical description of the main features of the qualification arrangements for post-16 education and training in England and Wales.

3. A periodisation of educational reform: the late 1970s to the mid-1990s

This section consists of a historical analysis of recent reforms of post-16 qualifications and curriculum and argues that the changes can best be seen in terms of five distinct periods.

4. Recent attempts to modify the triple-track system

Section Four analyses the state of the debate on unified and divided systems in England and Wales. Here we introduce the distinction between divided systems consisting of separated tracks, overarching frameworks that embrace the tracks, and fully unified systems.

5. Options for the future

This section outlines possible future options for both the post-16 curriculum and the qualification system.

6. The potential of the Leonardo da Vinci Post-16 Strategies Project

The final section examines Leonardo da Vinci Project and the possibilities it suggests in relation to the Anglo-Welsh debates and as regards future comparative and collaborative research and development with Project partners.

We want to begin by referring to the wider international context and the position of the English and Welsh system within this. We identify four major factors which are shaping post-16 education and training in England and Wales and which appear common to all EU countries:

pressures from global competition and the need for each country to have a highly skilled workforce if more and more manufacturing and even service industries are not to move to South-East Asia;

plans by national governments for reducing public expenditure which involve reducing the size of their central state apparatuses and encouraging the development of local and institutional autonomy as well as greater participation of the private sector;

the apparent inability of EU countries to achieve low (5 per cent or below) unemployment;

diverse attempts to relate general educational and vocational learning and to introduce to teachers and students the concepts of lifelong learning and the possibility of a "Learning Society".

The educational responses to this wider global context have, like all social policies, taken different forms in different countries; these have reflected both the strengths and the weaknesses of the respective national systems and the ideologies of national governments. The exact nature of these differences and their common features are one of the foci of this meeting. However, there are aspects of the English and Welsh post-16 education system which make it distinctive and may offer lessons of wider relevance. Two features are worth stressing at this point: the first is the very deep divisions between academic and vocational learning and their association with social class divisions that still remain. Even the use of the word "academic" rather than "general education" signals a more exclusive approach and a more anti-vocational view of learning than is evident elsewhere. The second aspect which, as far as we know, has no parallels in continental Europe, is the range of experiments in treating education and training provision as if it was a market with "buyers" and "sellers" of educational or training credit. Not surprisingly, such innovations have exacerbated the already fragmented nature of post-16 provision.

Academic and Vocational Learning in England and Wales: a Brief Analysis of its Divisions and Fragmentation

The education and training system for 16- to 19-year-olds in England and Wales is culturally and numerically dominated by the academic route (what are known as A levels). They are highly specialised and still very selective. The numerical, as well as the cultural, dominance of the academic route is reflected in the steady expansion of full-time participation since the 1960s. Participation in A levels has grown from 3 per

cent in the early 1950s, when they were first established, to nearly 40 per cent in the mid-1990s. Parallel to this expansion of the numbers taking A levels has been the increase in the number of 18/19-year-olds entering higher education; this has doubled from 15 to 30 per cent in the last 10 years (Spours, 1995b).

Both full- and part-time vocational education has remained the activity of a minority of the post-16 student cohorts. Until recently students on vocational courses have taken a wide range of different qualifications. Until recently the unpopularity and inadequate provision of vocational courses have accelerated, rather than delayed, the entry of young people into the labour market (Evans & Heinz, 1994). Provision for vocational education in England and Wales has historically been weak, intellectually as well as numerically, both in terms of the demands made on students and, most seriously, in terms of the low expectations held by teachers (and of course by the students themselves) for those on vocational courses. It is not surprising that vocational programmes have been generally regarded as inferior and really only suitable for slower learners. The more recent switch from neglect to attention by policymakers has not been an unequivocal advance; in the past fifteen years the vocational route has been a constant focus of reform as one unsuccessful initiative has been replaced by another.

The Academic Route - A Levels and the Single-Subject Honours Degree

The academic route in England and Wales is undoubtedly one of the most specialised and selective models of post-compulsory general education. This degree of specialisation is reflected in the A-level system in which students between 16 and 18 mostly take only 2 or 3 subjects (the average is 2.3 subjects per student). A levels are an elective system in the sense that students are free to choose any combinations of subjects that are available and there is no baccalaureate-type curriculum to ensure breadth or define combinations of study. Significant powers however, are granted to university admission tutors to stipulate combinations of A levels and the grades required for entry to particular degree courses (Young & Leney, 1995).

The A-level system was designed as a means of selecting students from already selective secondary (grammar and private) schools for the characteristic English single-subject three-year honours degree. In England and Wales the most able students can achieve a PhD by the time they are 24 (i.e. after only eight years of post-compulsory education). This would be unthinkable in any other European country. Since the inception of A levels in 1951, there have been a series of unsuccessful attempts to broaden the academic curriculum (Young & Leney, 1995). The most recent attempt was in 1988, when a Committee set up by the Government recommended that students should be required to take five "leaner" subjects; this recommendation was instantly rejected by the Government as likely to lead to lower standards. However, significant internal changes have occurred during the 1980s. They have taken the form of new subjects, new modes of assessment (as alternatives to the typical terminal examination), and agreed subject cores to ensure consistency between syllabuses. Modular structures also began to be developed to motivate students and offer some flexibility.

The A-level examination is highly regarded for its ability to separate "the sheep from the goats", and many claims are made for it as a rigorous test of a student's intellectual capabilities. However, it is also widely criticised on the grounds that it promotes a high failure rate (currently about 30 per cent) among those who have already been selected (the top 30 per cent). A levels are also criticised for being too narrow and for the devaluing effects they have on more applied vocational alternatives. Arguments about the reform of A levels began soon after they were introduced;

however, they have gathered pace in the last decade. At the same time, A levels have been hotly defended by successive Conservative governments and by those on the political Right, who have represented them as the "gold standard". This campaign has so far succeeded in dismissing any significant change as "dilution" and likely to lead to a drop in educational standards.

Despite their highly selective function, A levels also remain the numerically dominant form of provision for 16- to 19-year-olds. If combined with the GCSE 16+ examination, the academic route accounts for 45 per cent of the cohort (36 per cent doing A levels and just under 10 per cent taking or retaking post-16 GCSE).

The Vocational Route - A Fragmented Minority Route for Low Achievers

In contrast to the dominance of the academic track, vocational programmes in England and Wales have been historically weak. Until fifteen years ago the vocational route was largely restricted to those on technician and craft apprenticeships (about 15 per cent of the age group) and lacked any strong full-time technical programmes. By the early 1980s however, the traditional apprenticeship was in sharp decline. It was in part replaced by short-term training programmes such as the Youth Training Scheme which was aimed more broadly at all school-leavers who would otherwise be unemployed.

During the last decade, participation in full-time vocational courses has increased from about 10 per cent to approximately 30 per cent of the 16-year-old age group (20 per cent at Level 2, which is approximately equivalent to four GCSE Grades A-C 16+ examination and 10 per cent at Level 3, which is approximately equivalent to lower-graded A levels). This tendency for then to be a higher proportion of lower-achieving students is the converse of the proportions of studying at each level in the academic track, with the result that the vocational route is invariably seen as an option for those who have not succeeded in the academic route and therefore always regarded as "second best".

From the early 1980s the vocational route was the focus of continuous curriculum reforms. They were often short-term and reactive to change, and led to a succession of new qualifications, often with conflicting and even contradictory purposes. The late 1980s saw the emergence of a new approach to vocational qualifications representing an attempt to overcome these weaknesses. This was the introduction of a national vocational qualifications framework based on a competence model of workplace performance (NVQs) which, it was assumed, would gradually replace all existing vocational qualifications. At the same time, the curriculum debates initiated by the new framework created a climate of innovation and new thinking particularly concerning both pedagogy (especially more flexible approaches to learning) and assessment (core skills). The main features of the changing vocational route since the late 1970s have been as follows.

Significant changes began in the late 1970s with the creation of short-term employment and training schemes such as the Youth Opportunities Programme (YOP) and the Youth Training Scheme (YTS). These evolved through the 1980s into a two-year programme (YT) with, however, very poor qualification outcomes. The numbers of those taking these programmes grew till they involved a maximum of 26 per cent of the cohort by the late 1980s; this number has since declined to half that level (Spours, 1995b).

A variety of pre-vocational initiatives were also introduced which were aimed at those who in previous times would have got jobs straight from school at 16. With the collapse of the youth labour market they did not know what they wanted to

do and were termed the "vocationally uncommitted". The main qualification to emerge for this group was the Certificate of Pre-Vocational Education (CPVE). Students on such courses were inevitably amongst the lowest achievers. In theory, the CPVE was designed to help students find out what jobs they wanted to do. In practice it all too easily became a "cul-de-sac" providing limited opportunities for progression.

Participation in full-time broad vocational courses such as those leading to the Business and Technology Education Council (BTEC) awards grew steadily throughout the 1980s. However, following the 1991 White Paper "Education and Training for the 21st Century", the Government attempted to replace these broad vocational qualifications by a third, and middle, track called General National Vocational Qualifications (GNVQs).

A fourth innovation in vocational education and training was the introduction of the concept of occupational outcomes expressed in terms of a person's ability to perform a specific task. This was the approach taken by the National Council for Vocational Qualifications (NCVQ), which was intended to become the basis of all work-based vocational qualifications.

Throughout the 1980s there were attempts to compensate for the poor educational standards of many YTS trainees and CPVE students by introducing the concept of a common core curriculum; this was expressed as the "core skills" of Application of Number, Information Technology and Communications. These "core skills" can be seen as a remedial approach to broadening the curriculum of students on vocational and pre-vocational programmes; they were not applied to either the academic tracks (A-level students were not seen to be in need), nor to NVQs because of their narrow occupational focus and because introducing the "core skills" would have required the agreement of employers.

Finally, there were a series of curriculum initiatives aimed at a broader "vocationalising" of the secondary curriculum for the 14-18 age group. The largest, most influential and most generously funded was the Technical and Vocational Education Initiative (TVEI).

By the mid-1990s, vocational education in England and Wales consisted of two tracks - broad vocational courses (increasingly GNVQs) and occupationally-focused NVQs. The broad vocational courses have, in recent years, been largely studied full-time and now account for about 30 per cent of the age group at 16. Work-based vocational courses, in which trainees are in work or training schemes but also attend further education colleges on a part-time basis, have been in decline due to changes in the youth labour market and now account for only 8 per cent of the cohort. The proportion on Youth Training has also declined from about 26 per cent to about 14 per cent of the age group at 16/17. The training of those on YT leads either to NVQs or to traditional vocational qualifications. A recent innovation has been the introduction of Modern Apprenticeships which is an attempt to revive the old apprenticeship tradition without its associations with time-serving and the involvement of trade unions. To summarise what remains a confusing picture, the vocational curriculum is fundamentally split between three traditions:

a weak technical tradition as expressed by the BTEC awards;

a pre-vocational tradition reflected initially in CPVE and YT, but in the 1990s increasingly in GNVQs;

a narrow competence-based and occupationally-focused approach to work-based learning (NVQs).

The problems of this "mixed" and unplanned provision in England and Wales need also to be seen in the wider policy context. They reflect a strong "voluntarist" tradition in which the State makes no statutory demands on employers to have a role in training or to invest in training even if they recruit 16- and 17-year-olds (Green & Steedman, 1993). Coupled with this is the continuing lack of demand for highly skilled employees from employers (Finegold & Soskice, 1988). There is also no clear relationship between qualifications and employment opportunities, with the obvious consequences for the motivation of learners. This lack of connection is seen both in employer recruitment practices and in the relatively small number of jobs for which a qualification is a legal requirement.

Periodisation of Educational Reform from the Late 1970s to the Mid-1990s

Academic and vocational education in England and Wales can be seen to be in a "dual crisis". The academic route caters for a minority, induces premature specialisation and creates negative attitudes towards vocational alternatives. Vocational education, on the other hand, has succeeded in attracting only a minority of the cohort, mostly at lower qualification levels and, of late, has poor successful completion rates. It also suffers from an irony of being regarded as narrow, because it does not include general education, and at the same time as not sufficiently specialised in the skills and knowledge that are offered. The lack of general education and technical specialisation in all the English traditions of vocational education continues to lead to problems of progression both to higher education and to some forms of employment, e.g. in the field of Engineering.

These twin crises of both the academic and vocational routes can be better understood by looking at government reforms since the late 1970s from a historical perspective. We find it useful to distinguish five "periods" during which the academic route has expanded and diversified and fragmentary vocational provision was gradually being replaced by a national system of vocational qualifications. At the same time, the system remains marked by division and the proliferation of certificates, some of which have little currency and which both students and employers find increasingly difficult to understand.

Period 1: Prior to the Late 1970s

The mid-late 1970s marked the beginning of a period of constant change in the provision of vocational education, largely under the influence of the recession generated by increases in the price of oil and the consequent collapse of the youth labour market. Prior to this there were no experiments with, or debates about, bridging or overcoming academic and vocational barriers. A hierarchical qualification system was separated by different modes of participation - full-time participation (about 30 per cent) consisted almost entirely of academic courses, while of the 70 per cent who left school for work, only 15 per cent were on some kind of part-time vocational course. The post-16 curriculum equalled academic A levels (largely full-time in schools) while

vocational education consisted almost entirely of apprenticeships with some day-release in colleges.

Period 2: Early 1980s

By the early 1980s, with the rapid decline in the youth labour market, the focus of provision shifted to short-term schemes both work-based (YOPs, YTS) and full-time (CPVE and other pre-vocational courses) for those who previously would have got a job at 16.

Debates began about a new student-centred full-time curriculum which advocates claimed to be a model not only for under-achievers but for all students. This took the form of a model called "Vocational Preparation" which was expressed in the new prevocational qualification at 17+ (CPVE) and a new curriculum and funding framework (TVEI). In practice, the vocational preparation model, the 17+ qualification and the pilot stage of TVEI which emphasised "process skills" were confined to low achievers and therefore did not lead to experiments on bridging or overcoming academic and vocational barriers.

Period 3: Late 1980s

The period from 1986 to 1991 was characterised by changes in both the vocational and academic tracks. First there was the proposal accepted by the Government for a national structure for vocational qualifications consisting of a four-level qualifications framework (Review of Vocational Qualifications in 1986). This development was paralleled by the move to diversify the academic track through the General Certificate of Secondary Education (which unified O levels and the Certificate of Secondary Education) and the increased levels of assessed coursework and modular syllabuses both in GCSE and A levels.

At the same time the academic track was becoming more "vocational". New applied subjects were offered in both GCSE and A levels, supported by TVEI funding for students up to 18. This extension of TVEI, in contrast to the earlier phase, was applicable to all schools and colleges and all full-time learners up to 18. With its priority for continuity of learning through the 14-18 age group, the encouragement of flexible learning, recording of achievement and the development of modular courses, the extension of TVEI began to raise issues about a curriculum that divided between academic and vocational routes at 16.

These two developments, a general certificate of education at 16 and a national qualifications framework, can be seen as the first attempt in England and Wales to create an English version of a "dual system" (CBI, 1989) in contrast to the more ad-hoc phase of the early 1980s. The period from 1987 also saw a rapid rise in full-time post-16 participation from under 50 per cent to nearly 70 per cent by the early 1990s. Many commentators saw this increased participation as a product of the success of the new GCSE in improving student motivation (Gray, 1993).

From the point of view of government policy, this period ended with the publication, in 1991, of the White Paper "Education and Training for the 21st Century". The White Paper, which introduced full-time GNVQs as the middle route of a triple-track qualification system, reflected two developments in the 1980s. GNVQs were a response to the failure of NVQs to serve as the basis for full-time post-16 vocational education; however, they also provided an alternative full-time route for a Government that did not want to see any further expansion of the numbers taking A levels.

Period 4: Early 1990s

The period from 1991 may be defined by four developments which can be summarised as follows.

The rapid elaboration and implementation of GNVQs which was the government response to the growing 16+ staying-on rate.

The establishment of a national 4-level, three-track system of qualifications (A levels, GNVQs and NVQs) in which the three tracks are given nominal parity by being placed in levels but at the same time provided with deliberately different curricular and assessment systems.

A renewed emphasis on efficiency and institutional competition expressed through exam "league tables" for comparing schools and colleges, a reduced role for local educational authorities through the local management of schools and devolved budgets (LMS), and the "incorporation" of further education colleges as independent "businesses" with a new funding mechanism aimed at promoting student retention rather than recruitment. Divisions in the system of delivery between schools, colleges and the work-based route were exacerbated by each having a different funding mechanism.

The introduction of National Education and Training Targets. The revised targets aim for 60 per cent of those under 21 to reach an advanced level qualification (university entrance level) by the year 2000.

The wider context for these developments were further significant increases in full-time participation which over the period have averaged 4 per cent annually. This period also saw the emergence, for the first time, of debates about the unification of the curriculum and qualifications system and the necessity of reforming A levels (IPPR, 1990; Royal Society, 1991; National Commission, 1994).

Period 5: from 1995 Onwards

In the mid-1990s we appear to be entering yet another phase. It is marked by new patterns of participation, a growing recognition of the weaknesses of a triple-track system, and a series of organisational mergers. The Department for Education and the Employment Department were merged in 1995 to form the Department for Education and Employment (DfEE), and this is being followed by mergers of examining bodies responsible for academic and vocational qualifications. As drop-out levels increase, serious questions have begun to be raised about the quality and quantity of participation in the vocational track. There also appears to be the beginning of a slow-down in the rate at which participation after 16 is expanding; this, together with internal factors, is creating doubts about the government strategy of qualification-led expansion. The number of organisations supporting some form of unified qualifications system has continued to grow.

The main trends which mark the beginning of a new period are:

a "peaking" of full-time participation at 16+;

some signs of a levelling off of the improved levels of attainment which have accompanied the increases in full-time participation (Spours, 1995b);

increased non-completion rates in the new full-time vocational courses (GNVQs) when compared to previous full-time vocational courses;

growing uncertainty about the effectiveness of the present qualification system in Government circles as indicated by the spate of national reviews - the Review of 16-19 Qualifications as a whole (Dearing, 1995), the Review of GNVQ Assessment (Capey, 1995) and the Review of the 100 most popular NVQs and SVQs (Beaumont, 1995);

the development of a new type of Modern Apprenticeship to overcome the weaknesses of Youth Training;

the voluntary mergers of many of the boards responsible for examinations;

a growing debate around funding mechanisms and about whether there is a basis for a more unified funding approach across different post-16 sectors and even for switching post-16 funding from institutions to students in the form of vouchers.

Dissatisfaction with many aspects of the system has grown since the beginning of 1995. This is expressed in two ways. Firstly, employers and educationalists have continued to criticise the system of vocational qualifications - it is argued that they adequately prepare people neither for work nor for entrance to university. Not surprisingly, the voices arguing for a unified system, which would replace the three tracks, have grown louder still. Parallel with this there is a growing recognition of different approaches to unification and support for a step-by-step or incremental strategy which tries to bring together the different unifying approaches (Richardson et al., 1995).

Summary

The periodisation of debates and policy developments concerned with changes in post-16 education in the last 25 years has been described to provide a context for evaluating different unifying strategies. Despite the growing interest in, and support for, by a unified approach, academic and vocational learning in England and Wales is if anything, more divided than ever before. Academic qualifications have been made more exclusive by placing a greater emphasis on terminal examinations (for A levels and GCSEs), and the possibilities of convergence with vocational programmes have been reduced through their continued reliance on a narrow competence-based approach. The traditional English unpopularity of vocational qualifications has remained, despite considerable sums of money being spent on marketing and implementation. Despite the continued expressions of confidence by the Government in the triple-track system, its fundamental problems have not gone unchallenged. It is to an evaluation of the alternatives that have been proposed that we now turn.

Recent Attempts to Modify the "Triple-Track" System

Government policy over the last five years has already been described. It has involved entrenching and limiting access to the academic route and accentuating the differences between it and the vocational alternatives. Within the framework of the national three-track system, funding strategies have forced schools and colleges to expand, to compete for students, and to decide which qualifications to offer. It is in this context that the development of two alternatives, which we will call "framework" and "system" approaches, needs to be seen.

Table II-8.

Comparison of Unified Framework and Unified System

Unified Framework	Unified System
The framework has two basic elements, the unit and the existing qualification.	The unit or module is the basic element of the system though there is a recognition of the need for small blocks of units for coherence and combinations of units as pathways.
Existing qualifications, such as A levels or GNVQs remain but are "mathematically" unitised and allocated a level according to common definitions of unit size and "level descriptors". From this the "credit volume" of each qualification is calculated. This process can be seen as templating a framework over existing qualifications rather than reforming or abolishing them.	Existing qualifications are merged or transformed into a single grouped or baccalaureate-type qualification - for example an "Advanced Diploma" at level 3. The units and levels of the diploma use some of the techniques of the credit framework approach - such as common unit size, level descriptors and creating credit weighting in designing a unified system.
Existing qualifications would be expressed units with some additional possibilities for combining units.	Units are combined by the rules of combination into recognised, but flexibly constructed, pathways (perhaps 15-20). Units are also combined into core and specialist studies which will vary for each pathway.
Colleges have been encouraged to develop local credit systems which have been used to formalise non-formal education for adults as a basis for alternative access routes into higher education. Unitising qualifications within a common framework goes against the grain of existing national qualifications and reflect bottom-up attempts at unification.	Institutions would be encouraged to develop local modular systems and regional variations within a framework and pathways provided by the national system. The process of change combines both top-down and bottom-up strategies.

Table continues

Table II-8. (continued)

Comparison of Unified Framework and Unified System

Unified Framework	Unified System
Nationally, the framework approach is being advocated to extend choice to students by enabling them to mix of units of study from existing academic and vocational qualifications without altering the qualifications themselves.	The unified system approach argues that divisions between academic and vocational qualifications can only overcome if there is a fully modular system, a common assessment strategy and a redefinition of skill or knowledge and therefore the transformation of existing qualifications.
A framework approach could lead to a common award in the form of an Advanced Diploma consisting of different elements of existing qualifications and as an alternative to them.	A system approach would lead to a single award in the form of an Advanced Diploma consisting of different combinations of core and specialist units for a range of specialised pathways.

"Framework" and "System" Approaches to Unification

"Framework" and "system" approaches confront different weaknesses in the present triple-track system; both can be seen as *unifying* in the sense that they oppose the current system of divisions between academic and vocational tracks. Both reflect attempts to shift the balance from the qualification tracks towards the system or framework of which they are a part.

Any dichotomy is in danger of oversimplifying a complex picture. However, broadly speaking, it is useful to see "framework" approaches as arising from dissatisfaction with the provision for vocational education. They tend to reflect the concerns of those involved in further and adult education and of the potential "clients" of the new universities. "System" approaches, on the other hand, have arisen principally out of a criticism of the narrowness of the academic track, though applied or vocational units are included in one version of the unified model, the "core/specialisation model" (Young & Spours, 1995).

As more students follow academic programmes in colleges, and schools expand their provision of general vocational courses, the different emphases of school and college-based provision are likely to diminish and the scope for a more strategic approach to unification will increase.

Framework Approaches to Unification: Improving the Flexibility of Vocational Provision

Earlier in this paper we referred to the fact that the provision of vocational education in England and Wales had developed in an ad-hoc and piecemeal way. This is partly because there has never been a coherent government policy and partly because vocational education is inevitably fragmented on account of the diversity of learners that it has to cater for. With their close association with provision for slow learners,

vocational education programmes in England and Wales have found it difficult to establish their credibility beyond those specifically involved (this has been especially true in relation to the universities). It is not surprising therefore, that attempts have been made to give vocational education programmes a greater coherence and continuity and to offer greater flexibility for learners to drop in and drop out. A focus on flexibility has appealed to colleges with a high proportion of adult students and to sections of the business community (CBI, 1989; CBI, 1993) who want employers to be able to pick those units in a qualification that suit their needs. It is these developments that have led those involved to explore the idea of a "framework" to give some coherence to what are often highly fragmented activities.

To understand the continuing significance of framework approaches to reforming qualifications, it is useful to trace the idea of a "qualification framework" through the periods discussed earlier in this paper. Qualification (or curriculum) frameworks have been of two kinds. First, there are many examples of localised bottom-up frameworks; these are developed by individual schools and colleges (and sometimes by consortia) to improve the coherence and flexibility of their provision. Secondly, there have been government-supported frameworks designed to rationalise existing courses (e.g. the NVQ framework). Local frameworks first began to be developed in the early 1980s to target the new Vth formers in schools and further education colleges who in previous periods would have left school for work without any qualifications at all. They combined practitioner support with government approval; two of the most well-known examples which linked local developments to national policies were CPVE, the full-time pre-vocational course we have already referred to, and the curriculum frameworks designed for youth training.

The first example of a national framework was the four-level national vocational qualification framework (NVQ) established in 1986; it ensured the possibility, at least in theory, of progression from level 1 to degree level (level 4). Unlike CPVE, the NVQ was not a product of negotiations with practitioners; it was based on a functional analysis of occupations. It was hoped that the framework would overcome the fragmentation that characterised earlier vocational qualifications. This idea of a national qualification framework was extended by the Government in 1991 to include all qualifications, at the same time allowing the three tracks to be kept distinct and separate.

The national qualifications framework was not designed to incorporate local needs; the assumption was that they would be adapted to the framework. Not surprisingly, a kind of "counter-framework" approach developed, reflected in the accreditation offered by the Open College Federation. The idea of a framework that was independent of the qualifications system gained considerable publicity and support when the Further Education Unit published "A Basis for Credit" (FEU, 1992). The FEU paper suggested that a credit framework could be a basis for translating all learning into units with a common notional time. The idea has been developed extensively in Wales as a basis for a common curriculum policy to be adopted by all Welsh colleges. However the "openness" of the credit framework is also its weakness. Firstly, it is additional to and does not replace qualifications. Secondly, it is difficult to see what added value is provided with a framework which only brings together the learning already achieved by a student.

A rather different, and potentially stronger, approach to frameworks is reflected in the 1994 statement from a group of Associations representing head teachers in various types of institution (AfC, 1994). Their proposed framework was specifically designed to bridge the academic/vocational divide and included some specification of common learning for all students. It proposes that all existing qualifications should

be expressed in unitised form. In theory, this example of a framework allows students to combine modules/units from different qualifications as well as to transfer from one qualification to another. In practice, the different approaches to assessment in the three tracks make this almost impossible.

Three features characterise these attempts to develop curriculum frameworks:

They focus primarily on flexibility and the possibility of transfer between the tracks;

They attempt to avoid the rigidities and insulation of a triple-track qualification system while at the same time leaving the three qualification tracks themselves in place;

They have been developed in a largely local way.

The framework approach is a typically English innovation in that it is explicitly voluntary - institutions can either take it or leave it. It also follows the English tendency to want to add further complexity rather than replace and reform existing structures. An emphasis on flexibility and the possibility of "mixing" elements of academic and vocational study has been a central theme of frameworks. As a voluntarist innovation linked to the low expectations held about the potential of the majority of learners, frameworks do not lead to a strategy with much scope for producing far-reaching change. Their appeal is more pragmatic. They produce a sense that rigidities are being broken down while avoiding the sensation of bringing about significant and politically unacceptable change (Robertson, 1995). However, frameworks have been able to do little to shape the fundamental divisions within the qualifications system and the curriculum. Vocational qualifications and their endemic problems remain - their narrow concept of competence, the proliferation of industry lead bodies with the power to define competence, the lack of employer demand, a bureaucratic system of assessment and a weak definition of general education.

Frameworks have appeared to be a way forward at the local and institutional level in the face of rigid nationally defined qualifications and the pressures felt in colleges from a funding mechanism which forces them to recruit more students, particularly adults. In practice, what is possible at the school/college level is largely defined by national qualifications. What remains important is the potential that frameworks have for linking national and local approaches and for enabling students to transfer credit between colleges within a national framework.

"System" Approaches to Qualification Reform: Reforming the Academic Route

"System" approaches have focused on the narrowness and exclusiveness of the A-level academic track and its high failure and drop-out rates. They have also tried to show how technical and vocational provision could be integrated with a reformed academic track. The reform process could be seen as starting with an attempt to diversify the academic track. "System" approaches are distinct from framework approaches in that they propose the replacement of existing qualifications (including A levels). The first system approach was that proposed by the IPPR in their report "A British Baccalaureate" (1990). This was followed by a series of reports on similar lines from the Royal Society (an English version of the Academy of Sciences) in 1991 and from the National Commission in 1993. The system approach takes its latest form in the Learning for the Future Project's idea of a core-specialisation model of the curriculum (Young & Spours, 1995). The main features of this model are :

a core requirement for all students which allows students to make choices within the core (e.g. if science is part of the "core", students will be able to choose which science modules are best suited to their needs and interests);

the provision of general, applied and "combined" pathways or lines of study to accommodate various degrees and forms of specialisation;

a new concept of "connective studies" including the assessment of the students' management of their own learning, which will require them to explore links between the different subjects that they study;

a unitised (or modular) assessment structure with an agreed minimum unit size;

a national (and perhaps regional) modular bank on the lines being developed in Scotland;

an expanded programme of structured learning time of at least 22-25 hours "contact" for all students;

an assessment system that combines internal and external modes, a variety of assessment techniques (e.g. portfolios and written tests), level and year weighting and a simple grade and points system;

a larger number of levels than at present to encourage access and progression within the qualification structure;

the award of certification at each level culminating in an Advanced Diploma linked to named pathways. This would normally be achieved at 18 or 19 (Young & Spours, 1995).

There has been growing support for this approach in the last few years. However, it has a number of weaknesses, the most serious of which is that is not likely to be supported by a number of key groups including the Government. Unlike the framework approach, it goes against the grain of a number of deeply embedded features of English post-compulsory education. It rejects:

voluntarism, arguing for an element of compulsion rather than an elective approach;

the English assumption that curriculum breadth can only be achieved at the price of less depth (and less rigour), and thus lays itself open to the accusation of undermining the "Gold Standard" of A levels;

the argument that the only way to guarantee (or raise) standards is through a high proportion of terminal externally marked examinations.

While being open to political attack from the Right in terms of lowering standards, earlier versions of unified system approaches have been accused, by the Left, of being unrealistic and utopian (Robertson, 1995). The approach to implementation proposed in the Learning for the Future (LFTF) model of change attempts to combine the two by seeing framework approaches as a necessary initial step.

As we have already indicated, there was a tendency, at least in its earlier versions, for the system approach to give priority to reforming the academic route (A levels) and leave the vocational route unchanged. This meant that possibilities of mutual enrichment between academic and vocational learning were missed because the concept of specialist pathways was not developed.

In order to overcome these weaknesses two problems have to be tackled. First, the "framework" and "system" approaches must be brought together in a curriculum strategy for the short and long term. Second, issues which were not sufficiently emphasised in the original concept of a unified system must be addressed; in particular the issue of curriculum breadth and its relation to vocational specialisation. Before discussing a possible strategy taking account of these developments, it is necessary to return to the new political context in which we find ourselves. This has two elements. Firstly, government initiatives in the form of a series of reviews, and secondly, a number of initiatives that have arisen independently of the Government.

Government Reviews of Post-16 Qualifications

There are two recent developments which are important to the future relationships between academic and vocational learning. The first is that, in July 1995, as a result of changes in the Cabinet rather than any change in educational priorities, the two government departments concerned with education and training have been merged into a single Department for Education and Employment (DfEE). It is significant that this merger has been followed by a whole series of merger discussions among the organisations concerned with examining and assessing for academic and vocational qualifications. The latter are positioning themselves in anticipation of changes in curriculum and qualifications that may come after the Dearing Review and seeking to strengthen their standing in the education and training market.

Secondly, and in response to the problems of the triple-track system discussed earlier, the Government has initiated a series of reviews. These are led by non-(party)-political people with the confidence of the business community. Although we have referred to three reviews, by far the most significant from the point of view of this paper is that led by Sir Ron Dearing, a former Head of the Post Office and the company running the National Lottery.

The terms of reference given to Sir Ron Dearing were ambiguous. On the one hand he was asked to examine the possible causes of the high student drop-out from post-16 courses and the possibilities for enabling students to broaden their studies. However, he is also required to recommend ways of consolidating existing qualifications. It was this ambiguity that has, in practice, allowed Sir Ron Dearing to consider the qualification system as a whole and even take up the possibility of system-wide reform. Sir Ron Dearing reported in April 1996. The most radical proposal in the Final Report is one with potentially long-term significance. It is to add two new "grouped" qualifications intended to "over-arch" the existing three tracks. These may be termed "National Diplomas or Certificates". National Certificate involves a minimum requirement for breadth (the three current core skills - Application of Number, Information Technology and Communications) in addition to two A levels or an advanced level GNVQ (an 18-unit National Certificate). A 21-unit National Diploma is also proposed in which two A levels and three AS¹ levels are drawn from four domains of study to which are added three core skills units. This National Diploma could also be achieved by including equivalent GNVQ units. However, neither of these new overarching certificates will be compulsory. They are proposed as an option to be "market-tested" along-side existing A-level and vocational programmes.

Sir Ron Dearing's report remains very much in the English voluntarist tradition of allowing students to choose their subjects and allowing employers to decide whether or not to train. In other words it represents an extension of student choice,

¹ Advanced Supplementary Examinations

not a qualification reform per se. The significance of this does not lie in the practical effect of the proposals themselves, for they are likely to be modest, but in the possibility that for the first time since A levels began in 1951, students will be able to take a "group" award which includes general and applied learning and at the same time demands more breadth.²

Non-Governmental Developments

Developments at two levels can be distinguished - local and national. At the local level, the pressures of introducing GNVQs and the demands of new funding mechanisms, together with a reduction in alternative sources of funding, have diminished the kinds of local innovation that were possible at the end of the 1980s. However, increasing numbers of schools and colleges are introducing modular A levels and a number of local consortia are exploring cross-institutional provision. Less public, but in the longer run of considerable importance, practitioner reports and small-scale research projects are providing a continuing critique of both GNVQs and NVQs. The dissatisfaction underlying the critiques is largely directed at the bureaucratic assessment procedures associated with GNVQs and NVQs. Both assessment regimes arise from adhering to a simplistic outcomes model (Spours, 1995a). However, wider issues are also being raised about the kind of learning that these qualifications make possible.

At the national level, the Post-16 Education Centre is involved in a number of initiatives which could be of significance for the future.

Follow-up research on the Learning for the Future proposals for a core/specialisation model of the post-compulsory curriculum and an analysis of national and local responses to the Dearing Report.

A joint project with the Centre for Educational Sociology at the University of Edinburgh - the Unified Learning Project. This began in April 1996 and will collect comparative data in England and Wales and in Scotland to explore a number of issues:

the usefulness of the track/framework/system distinctions used in this paper;

the strengths and weaknesses of top-down and bottom-up approaches to curriculum development;

the possibilities of integrating a top-down approach with a greater involvement of practitioners;

the contrasting cases of England and Scotland where the trajectory of unification has been very different (for example modularisation, which we see as a prerequisite for unification, began in the vocational track in Scotland and in the academic track in England);

the conceptual, design and implementation issues involved in developing a unified system.

We envisage presenting the findings of this research at future meetings of this Leonardo da Vinci Network. We are also advising the Labour Party on their policy on 14-19 education and training in the lead-up to the General Election which has to take place by May 1997.

² For a more detailed Examination of the Reports findings see Spours & Young, 1996 and Young, 1997.

Options for the Future

The title of this paper refers to the possibilities of division, convergence and integration of academic and vocational learning. Without being able to offer any clear-cut predictions, our analysis at this stage points in the following directions. Further divisions are an inescapable outcome of the current Government's educational and economic policies. These divisions will be expressed in a reduction of the proportion of each student cohort entering academic courses and an accentuation of the differences between academic and vocational learning. Inequalities between different types of institution - private and public, selective and non-selective, inner-city, suburban and rural will inevitably increase. A few good schools will always buck the trend just as a century ago a few working-class children always got to university despite all the barriers. The evidence that there are a small number of successful schools in the inner cities is no substitute for a policy. The current low level of industrial and technological investment and the only slightly modified free-market economic policies can only reduce student motivation to further study by not expanding job opportunities and by cutting back on university expansion. It is a bleak scenario if the Conservatives win again next year.

If a non-conservative government (Labour or Labour/Liberal Democrat coalition) is elected the possibilities are more open but not automatically better; they depend crucially on the educational policies adopted. *Convergence* could result from modularising academic and vocational tracks within a common framework and exploring common principles of assessment. This would allow more mixing of studies and the possibility of mid-course transfer. A non-conservative government would also be likely to enhance local and regional decision-making, minimise the negative effects of institutional competition and open up the issue of the relationship between economic, educational and social development.

In the long term these convergences and a more supportive context could be a basis for the unification of academic and vocational learning. As part of the Learning for the Future Project, we are exploring a step-by-step approach to unification; initially we shall explore the role of frameworks to maximise consensus. Such a step-by-step approach would involve:

- the modularisation of all qualifications and a strategy for extending the moderation of teacher/school-based assessment as an alternative to external assessment;

- the redesign of the general vocational track (GNVQs) as applied learning modules;

- strengthening the common core component of all qualifications;

- developing opportunities for greater vocational specialisation and a framework for alternance so that work-based and college-based programmes would be incorporated into a single system;

- integrating Youth Training, the Modern Apprenticeship and Accelerated Apprenticeship programmes into a common work-based route of progressive levels of study and experience with opportunities for part-time study and the possibility of transferring to full-time courses including higher education;

establishing a legal requirement that all employers recruiting any one under 21 have to provide them with a systematic programme of education and training (Young & Spours, 1995).

Many questions remain that would be crucial to any unification process. They include a focus on technical issues of curriculum and assessment design and the clarification of such ambiguous notions as coherence, breadth and core, and vocational specialisation. There are also issues concerned with the development of institutional capacity and political issues concerning funding mechanisms, legislation and the role of the private sector.

Leonardo Project Possibilities

The issue of bridging academic/vocational learning is an ideal case for collaborative and comparative research. Investigating the strengths and weaknesses of each national system will enable us to identify how far each is shaped by its own history and how far by global changes which shape us all. Also, each national system will have weaknesses that have stimulated innovations which could have wider relevance. Among the issues we would particularly like to explore are:

- models of vocational specialisation and vocational upgrading;
- different concepts of core and the core/specialisation relationship;
- approaches to the assessment of competence and key qualifications;
- the role of qualifications, higher education and employers;
- the limitations of disciplinary learning and knowledge production and possibilities of transdisciplinary concepts of knowledge and learning.

This Leonardo Project could not have come at a better time for us.

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The Reform of Academic and Vocational Qualifications in England and Wales: The Six Leonardo Themes

Ken Spours

Michael Young

Post-16 Education Centre
Institute of Education
University of London

Introduction

This paper describes the main reform issues concerning academic and vocational qualifications for 16 to 19-year-olds in England and Wales since 1991 and relates them to the six Leonardo themes. The main aim of UK government reforms during this period has been to build a more coherent qualifications system, to improve parity of esteem between academic and vocational qualifications and to meet National Targets measured in terms of the percentage of those up to 21 years of age achieving national qualifications. This paper will therefore comment on three aspects of this process:

- the introduction of General National Vocational Qualifications (GNVQs) as a middle track in a triple-track qualifications system;

- the recommendations of the recent Review of 16-19 Qualifications (referred to as the Dearing Report) and in particular the review's proposals for new certification to overarch A levels, GNVQs and NVQs; and

- the main lines of debate taking place as a result of the Review's focus on the balance between emphasising the distinctiveness of the three qualification tracks and building a stronger framework within which the tracks could converge.

In contrast to Scotland where the national policy follows from the *"Higher Still"* report, the situation in England and Wales is much more fluid and confused. The Dearing proposals are not yet at implementation stage and by the time they are there could well have been a General Election. If a Labour government is elected, its policy *"Aiming Higher"* would commit England and Wales to a qualification reform which, while building on the Dearing proposals, could take us on a path of convergence with *"Higher Still"* (Spours & Young, 1996).

Parity of Esteem

Divisions within the English and Welsh qualification system are marked by an elite and specialised academic track (A levels) and a low-status vocational track which is usually assumed to be more appropriate for the lower achievers. (See Part 2 Section 5 of this book). Since a national qualifications framework based on three tracks was formalized in 1991, the Government has been concerned that too many students attempt and fail A levels and that many of the A level failures would be more likely to achieve National Targets through taking a vocational qualification. In the context of the Government wanting to protect the integrity and "standards" of the academic track and at the same time wishing to encourage greater participation in vocational qualifications, strategies for creating parity of esteem have become increasingly important. Since 1991 the following measures have been attempted:

the formation of a national qualifications framework covering the three tracks (A levels, GNVQs and NVQs), based currently on three levels (Foundation, Intermediate and Advanced);

academic and vocational qualifications have nominal parity at each level, e.g. Advanced GNVQs and A levels are both regarded as Level 3 although the grades in these two qualifications are not currently aligned;

the structures of both qualifications are broadly aligned in terms of notional learning time. A single GNVQ (12 units) is equivalent to two A levels (12 modules). However, the alignment is still inflexible because units/modules are grouped differently in academic and vocational qualifications (an Advanced GNVQ has 8 mandatory and 4 optional units while a two A levels programme has 2 X 6 modules);

students can mix academic and vocational qualifications, e.g. a GNVQ student may take an A level (making 18 units in all) and A-level students can, in principle, take units from a GNVQ. Far fewer A-level students take GNVQ units than GNVQ students take A levels as any number below 12 would not amount to a full qualification and GNVQs have a lower status than A levels;

there has been a concerted attempt to persuade university tutors to accept Advanced GNVQs as a means of entry to higher education, and many of these agreements have had to be cemented at a local level between schools/colleges and their nearest university.

The promotion of GNVQs within a triple-track qualification framework can be seen as a mixture of two approaches towards parity of esteem. The first can be described as structural - the alignment and formal equivalence of academic and vocational qualifications at each level. This structural approach has achieved little in terms of successful parity of esteem and as a result the Dearing Review has attempted to produce a closer structural fit between A levels and GNVQs.

The second approach to parity of esteem (and arguably the dominant one at present) emphasises the distinctiveness of the tracks and their functions and stresses that though different, they should be equally valued. A key element in this argument has been the assertion that vocational students develop valuable and future-oriented learning skills not normally associated with the academic curriculum; they have been characterised as "deep learning" (Oates, 1996). Deep learning is a metaphor for

process-based learning. It focuses on gathering evidence of competence against assessment criteria, assignment-based learning and portfolio formation. It is claimed that the vocational student becomes more responsible for his or her own learning and also more motivated to continue learning. As in the case of the structural approach, this focus on distinctiveness has met with only limited success. For example:

Advanced GNVQ students entering higher education tend to be accepted only in the more applied degree programmes offered in the new universities (previously polytechnics). Although the same proportion of university offers are made to GNVQ students as to A-level students, the former are less likely to be found on the more traditional subject-based courses taught in the older universities;

Only 15 per cent of GNVQ Advanced students currently take an additional A level (Institute of Education, 1994), though at the Intermediate Level more take GCSE-level Maths and English;

Students entering Advanced GNVQs have significantly poorer GCSE grades than those taking A levels. Vocational students are therefore seen as weaker and as having to gain more ground to add sufficient value for parity between the qualifications to be demonstrated;

University tutors tend not to offer places on the basis of GNVQs alone. They frequently require at least an A level and sometimes good grades at GCSE in Maths and English as well;

The success of GNVQ applicants to higher education is also determined by the supply and demand for higher education places and on whether admissions tutors see themselves as "recruiters" or "selectors" for particular courses (Paczuska, 1996).

Improving the parity of esteem between the academic and vocational tracks has been a major goal of the recent Dearing Review of 16-19 qualifications (Dearing, 1996). The review proposes to introduce a series of National Certificates (at Levels 1-3) and a National Diploma at Advanced Level (Level 3) which overarch the existing qualifications. The National Certificates are designed to improve the parity of esteem of GNVQs by requiring those with two or more A levels to obtain, in addition, the new AS Level (referring to Advanced Supplementary Examinations) in "key skills" to acquire an Advanced National Certificate.

The National Diploma can be seen as a limited form of Baccalaureate and will be awarded to students who take:

two A levels + two AS Levels + a new AS level in key skills;

GNVQ + 2 AS levels + GNVQ key skill units;

NVQ + GNVQ AS type units + key units in numeracy/communication and information technology.

The National Diploma would involve completing the equivalent of 21 units in all with the units drawn from four knowledge domains. The aim of the Diploma is two-fold - to encourage breadth of learning and to confer more equivalence on vocational qualifications. The Review also proposes that assessment in GNVQs should be more external and therefore look more like assessment of academic qualifications.

The new Diploma is voluntary and students will still be free to take the traditional three A levels route to university. This means that it is doubtful whether it

will be taken up in a large number of schools or colleges. Furthermore, it is not clear what the reaction of university admissions tutors will be.

It is not surprising therefore, that as little practical progress is being made in equating academic and vocational qualifications, more radical possibilities remain at the centre of debates about post-16 qualifications. This is expressed in the continuous calls for a stronger approach to parity of esteem based on "commonality" rather than "distinctiveness". This could be achieved in the English and Welsh context by:

- a common framework for all qualifications leading to a single title, e.g. an Advanced Diploma;

- a common core curriculum which introduces common elements into both academic and vocational qualifications *and reduces their distinctiveness*;

- a common modularised structure to facilitate flexibility between tracks;

- a common assessment framework across all qualifications;

- opportunities for students to develop transferable skills through project and interdisciplinary work (Spours & Young, 1996, forthcoming).

In emphasising commonalities rather than distinctiveness, this approach moves beyond the concept of parity of esteem and towards the idea of unification. A key issue for a strategy that sees parity being achieved through commonality is how to prevent academic drift and the erosion of the identity of vocational education. These dangers could be offset by a strong emphasis on creating new forms of vocational specialisation within a unified framework.

Reform and the Labour Market Context

In general, the role of the labour market in educational reform in England and Wales over the last two decades has been negative (Finegold, et al., 1990). The market-oriented policies of the Conservative Government have meant that there have been no attempts on behalf of the state to regulate the relationship between education and the labour market; education and training policies have been geared to serving employers' short-term needs. The main strands of this relationship have been:

- a historical tradition in which formal training has been associated with only a minority of young workers (the situation up until the early 1980s, when training schemes for unemployed youth were first introduced);

- during the 1980s arguments emerged about the existence of a "low skills equilibrium" and the negative role that the low employer demand for skills has on education and training (Finegold & Soskice, 1988);

- a dominant emphasis on occupational competence and "job readiness" in vocational qualifications (De Ville, 1986). At the same time employers have continued to use academic rather than vocational qualifications as a means of screening;

- more recently some employer organisations have called for more *core skills*; however, in practice they are referring to the high proportion of post-16 students

who lack basic skills and knowledge in mathematics and English (Confederation of British Industry, 1989; 1992);

until the 1990s the youth labour market has been seen as a restraining factor on post-16 full-time educational participation;

during the 1990s the youth labour market has been "restructured" with less recruitment overall, but more recruitment of older students and more casualised employment in service industries; there is no sign of a clear pro-educational trend;

the low status of youth training, historically linked to countering youth unemployment and increasingly associated with low level qualifications and poor completion rates, has continued;

the take-up of work-based NVQs has been poor except in government training programmes;

the lack of interest by employers in either qualifications or training has continued. The government's policy of voluntarism and limited financial incentives for employers has not encouraged them to become involved.

In 1995 an attempt was made to upgrade the vocational route by the introduction of Modern Apprenticeships; a nominally two-year training programme leading to a Level 3 qualification. More recently the Dearing Review has proposed a series of traineeships more closely aligned with NVQ levels.

However, these endeavours to create a closer relationships between work-based learning and improved qualification rates remain frustrated by the lack of employer involvement. There is employer support for transferable skills and life-long learning at the level of rhetoric but this is rarely translated into action beyond isolated cases of large companies (e.g. Rover and Ford)

It has been argued that the reform of the education and training system will require a restructured relationship with employers and the labour market (Finegold et al., 1990; Richardson et al., 1995) Some of the elements of such a new relationship might be:

building a new apprenticeship system with an alternance (work- and college-based) qualifications base;

economic incentives/levers to encourage employers to offer trainee placements;

upgrading the training potential of employers and giving them more encouragement to form joint professional development relationships with educational providers;

identification of skills for the future and development of exemplar projects.

Reform in England and Wales and the Educational System

The post-16 education system in England and Wales has been historically characterised as a "low participation mixed model" (Raffe, 1990) based on the absence of both strong educational (school- and college-based) and work-based patterns of participation. Other European countries are described as having stronger educational (France

and the Nordic countries) or work-based systems (Germany and Austria). Scotland can be seen as approximating to the English case but with a slightly stronger educational participation base.

During the 1990s the levels of post-16 full-time participation have risen steadily and the English/Welsh system has moved to what can be called a "weak educational and medium participation system" (Spours, 1995).

The main government reform strategies over the last five years have focused on:

the development of a national framework of qualifications based on three tracks; promoting process-based reforms within a divided system to generate higher levels of student achievement. Examples are the recording of achievement practices, core skills development and individual action planning. These have mainly been organized for students on the general vocational track, but some institutions offer these to academic (A level) students as well;

encouraging an "educational market" including increased institutional competition to recruit students and introducing training vouchers (or credits);

the recent decision to merge the Ministries for Education and Employment, and to encourage voluntary mergers of academic and vocational awarding bodies and the possible merger of the two regulative bodies for vocational and academic qualifications, NCVQ (National Council for Vocational Qualifications) and SCAA (Schools Curriculum & Assessment Authority).

The English approach to reform has consisted of a mixture of division and voluntarism. The system has expanded and the qualification system has continued to have a selective role as well as promoting progression. Within the English model there is also a strong strand of institutional voluntarism which is supported by the recent Dearing Review. Schools and colleges are free to offer any range of certification and they are free to set their own admissions criteria for courses - there are no national rules. However, recently the mechanism for funding FE (Further Education) colleges has encouraged colleges to offer particular qualifications linked to the National Education and Training Targets. The main effect of the funding reforms has been to reduce the course teaching hours in vocational courses (it is estimated that these have declined by 30 per cent in the last two years); however, it has also led to more attention being paid to guidance and action planning.

In keeping with a strong tradition of local initiatives there have been a host of isolated local experiments in providing mixed programmes of academic and vocational qualifications and in unitization of the curriculum of individual colleges.

Much of the debate in England revolves around how far the system should remain voluntarist or whether there should be more prescription and compulsion. Many education and training analysts have argued for greater compulsion and a stronger national framework of education and training (Finegold et al., 1990; National Commission on Education, 1993). However, this is resisted by the Government as well as by some institutions and associations within the educational profession. In further education where the majority of participants are either adults or those seeking a "second chance", there is an argument for greater flexibility to deliver the curriculum and resistance to the idea of a substantial core curriculum for all post-16 students; this is seen as a burden on institutions and a deterrence to expanding educational participation. The case for some compulsory core contents for 16- to 19-year-olds is much stronger.

It is unlikely that the English system will take a determined turn toward a less voluntarist system; however, there may be more gradual moves towards a more coherent and unified framework through qualifications-led reform. A strong emphasis on raising levels of achievement, promoting progression, and improving the quality of the work-based route, its relationship to the full-time route and the proportion of those on it achieving qualifications is also likely.

At the same time it is increasingly realised that greater coherence will not be achieved through qualifications-led reforms alone. It will need a parallel series of reforms (through the funding system) to encourage more institutional co-operation and less competition, to organise progression routes and to deliver a broader curriculum. An increase in the overall level of funding of the system as a whole is unavoidable if quality is to improve.

Given the fragmented and divided state of the English system there remains a strong argument for promoting a unified qualifications system as a long-term future goal. At the same time, it is recognised that a consensus-building process will be necessary and that reforms will need to be implemented in steps and stages (Richardson et al., 1995). This link between a long-term vision and practical incremental strategies is crucial.

Education, Working Life, Local Networking and Skills for the Future

Within the English and Welsh educational system there is a strong tradition of local experiments in linking educational institutions with working life. One such link was forged through the Technical and Vocational Education Initiative (TVEI) which was funded between 1984 and 1996. TVEI was a national programme funded through the Department of Employment and Local Educational Authorities. More recently these links have been promoted by local Education/Business Partnerships and Training and Enterprise Councils based very much on an American model. However, with the end of specific funding (through TVEI), the "localised experiment" approach to education/working life links has been undermined by the rigidities of the qualifications system. There is no formal way in which these links can be accredited though either academic or general vocational qualifications. This has led to work-related activity having a low priority in schools. The only example of partnership between educational institutions and employers on a large scale is the provision of work experience through which most 14- to 16-year-olds spend between 5-10 days in a workplace. More recently there has been an attempt to establish a more vocational curriculum between 14-16 through creating a GNVQ Part 1; this development, however, is still associated with underachievers.

Post-16 vocational qualifications launched in the 1980s (e.g. BTEC First and BTEC National) resulted in close relationships between colleges and employers being developed both around work experience and some employer involvement in curriculum design and delivery. There were also experiments in high quality YTS schemes for young workers based on day-release to colleges. This pattern of development was interrupted by the collapse of part-time participation in colleges, government emphasis on work-based NVQs which had no role for the colleges and the lack of vocational specificity in GNVQs.

There has been an increasingly important discussion about *future skills* (British Telecom, 1994); however, this has tended to remain tied to employer arguments for basic skills, as discussed earlier. Attempts to develop high-level skills in education/employer partnerships (Prospect Centre, 1991) have been limited by the legacy of low achievement and employer voluntarism. It is becoming increasingly clear that a new framework for co-operation will be needed. This might include:

- traineeships (combining the Dearing proposals and Modern Apprenticeships) at different qualification levels which will allow both vertical and horizontal progression;

- a common framework, requiring all students to have accredited work-related learning;

- funding incentives and local forums to encourage greater institutional networking and less competition;

- identification of a new range of experiments to develop high-skill partnerships.

Teacher Co-operation and Reform

The professional development of existing teachers and college lecturers remains largely piecemeal and fragmented (Young et al., 1995). The devolution of financial responsibility for professional development to schools and colleges has meant that specified funds devoted to professional development have declined and staff training has tended to become more short-term and more competence-based.

Since the implementation of NVQs and GNVQs, there has been a concerted attempt to develop teacher and trainer accreditation along competence-based lines. In order to become involved in moderation and verification of the new vocational awards, teachers are expected experience the assessment and pedagogic strategies being experienced by students.

At present it is unclear whether there will be specific funds for staff development linked to the implementation of the proposals put forward by the recent Dearing review of 16-19 qualifications. Previous qualification initiatives have been linked to funding provided by the Education Ministry for specific forms of training (termed categorical funding). However, a more radical reform programme would involve a major rethink of the role of professional development. Some of the features of such a programme would be:

- a national programme sponsored by the Department for Education and Employment and any merged qualification authority;

- a funding mechanism that stipulated that institutions should spend certain amounts of money on professional development linked to one- and three-year professional development plans;

- the establishment of a range of professional qualifications which combine theoretical knowledge and implementation skills;

- a programme for teacher appraisal linked firmly to professional development rather than pay;

an emphasis on local co-operation and exchanging good practice both between educational institutions and between these and workplaces.

• Qualifications and Flexibility of Student Programmes

Many of the issues concerning this theme have already been addressed under Theme One. In particular the opportunities for mixing academic and vocational qualifications in individual study programmes within the current qualifications system are proposed by the Dearing Review. It is increasingly recognised that curriculum flexibility can be increased by:

- a mixture of modularisation and short courses (e.g. AS levels);
- credit-weighting for different levels of qualification which would encourage students to mix levels of study and to pace their own learning;
- balanced assessment principles which would be unit-based and formative as well as summative;
- the development of key skills which can be delivered either on a stand-alone basis or embedded in general and vocational curricula;

However, coherence is as important as flexibility, and clear guidelines and rules of combination will be needed to enable students to develop pathways of specialised study.

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In the previous reform of the Finnish educational system between the 1960s and the late 1970s the earlier dual education system had been replaced with a nine-year comprehensive school. Since the 1980s secondary education has been delivered by general upper secondary schools offering a three-year general education curriculum and by vocational schools. Vocational education was reformed in the 1980s, after which it comprised 26 basic programmes leading to 250 school- or college-level diplomas or special options. The first year of a school or college programme offers a common general syllabus. Completing a school-level certificate or diploma takes 2-3 years while a college-level diploma requires 3-5 years. Drastic changes and many innovations have been implemented in the Finnish vocational education during the last twenty years. For example, in 1970 the number of qualifications was 660, in 1980 it was 220, after the 1995 reform it was 170, and in the future, in 2000 it will be 10-20.

After the reform in the 1980s, vocational education was organized in a way that allowed the entire cohort to acquire either an intermediate- or tertiary-level vocational education. Despite this provision, 60 per cent of this age group enters the upper secondary schools.

The starting point of educational development work in Finland was, as before, fostering educational equality between different population groups and preparing the citizens for increasingly diverse educational demands. To achieve this, educational contents would have to reflect new kinds of occupational requirements, it would be necessary to increase the share of general education, and its contents would have to be evaluated. The established barriers between vocational and general, scientific and practical, theoretical and vocationally oriented curricula were considered problematic. Traditional forms of educational provision and school learning were seen to require renewal to meet the challenge of the constantly changing demands of working life.

The aim of the experimental reform of Finnish secondary education started in 1992 was to acquire experience that would be useful in the development of post-comprehensive-school education. The parallel polytechnic experiment was meant to enhance the status of the vocational education provided by college-level institutions.

In contrast to the earlier Finnish tradition of closed and centralized educational planning, in the present experimental reform of Finnish upper secondary schools the individual units are local or regional experiments. Sixteen localities are taking part in the experimental reform, comprising a total of 134 educational establishments. One third of these are general upper secondary schools, the rest being vocational institutions serving different occupational fields. Local planning can lead, and has led, to a variety of experimental settings and to very different solutions. This is desirable, as the purpose, from the beginning, was to gain experiences from different solutions to the need of developing the educational system.

The central elements guiding the work of the pilot units in their experimental process are: 1) a freedom of choice that allows personal

study programmes, 2) cooperation between educational establishments, and 3) new forms of learning. Accordingly, the follow-up of the experiments has the task of analysing three issues: 1) What kind of study programmes are the students constructing, given them the increased freedom of choice? 2) To what extent increased study options and inter-school cooperation patterns are emerging? 3) Are new forms of learning really emerging?

The participating educational institutions organize teaching jointly, and students can, in accordance with certain rules, independently construct their own study programmes. They can study either at their own school or at other schools. There are compulsory and optional subjects, as well as those that can be chosen freely. The number of compulsory subjects has been considerably reduced; instead of the normal 15, the general upper secondary schools participating in the experiment have only 4 compulsory subjects. For students in general upper secondary schools, the maximum proportion of studies undertaken at other institutions is 40 per cent. For students in vocational schools it is 30-40 per cent, depending on the length of the student's studies.

Development work on the scheduling of joint curricula appears to have been one of the most central and challenging tasks in the experiment. Every experimental unit has constructed a model of some kind for harmonizing their timetables, but once one model has been adopted, development work has seldom continued despite the problems encountered.

Cooperation between teachers has increased during the experiment. Perhaps most importantly, however, the schools have become familiar with each other's teaching practices and begun to value them. Teachers have formed cooperation groups for planning, handling joint counselling responsibilities, informing students, finding new models of learning and evaluation. Only some of the institutions participating in the experiment have taken full advantage of the increased margin of choice. About half of the experimental units were classified as working experiments where there is only limited cooperation between the schools, but the basis for open cooperation has been built.

It seems that the number of choices made by the students depends on the developmental phase of inter-school cooperation. Most of the students made their choices in the first and second year of their studies. Especially general upper secondary school students concentrate on studying for their Matriculation Examination during the third year. Only 11 per cent of general upper secondary school students and 30 per cent of vocational school students did not choose anything.

Follow-up studies have collected information on how the freedom of choice has affected the students' work programmes as a whole. Naturally, the extent and contents of students' choices depend on the provision made by the schools. The ways in which students take advantage of the freedom to build personal study programmes can be divided into six groups according to what they entail:

studies aiming at broadening the student's personal development and skills (practical skills);

interest-oriented studies (sports, music and art studies);

vocational orientation;

vocational preparation or studying for both a vocational qualification or qualifications and the Matriculation Examination at the same time;

advanced vocational or general education studies;

studies leading to tertiary-level entrance qualifications, e.g. those enrolled at vocational institutions studying at general upper secondary schools to pass the Matriculation Examination and to gain tertiary-level entrance qualifications.

The reasons behind the choices vary from personal interests, need for change and practical considerations to vocational specialization and complying with the needs of the labour market.

Once optionality has made possible increasingly individualized study programmes, the next step is to develop new forms of studying that make use of the rich resources of educational provision and to stimulate learning by using various learning environments. Joint teaching and projects comprising a variety of subjects have created what could be characterized as open learning situations where learning materials, working methods, and the places and time of studying are planned in groups of learners. As a result, learning is being organized in new ways: teacher-centred approaches are being replaced by learner-centred strategies, subject-centred learning by more versatile study processes, while strictly institution-bound learning is giving way to the acquisition of broader qualifications. In the experiment, these aims have been realized by developing syllabuses, organizing collaborative projects, giving credit for studies undertaken outside the formal school system, for summer studies and for apprenticeship training.

Extensive collaboration between schools is positively linked with the level reached in upgrading curricula. It is hard to say which comes first: does enriching syllabuses and organizing new curricula create cooperation or is it the other way round?

The experimental schools are also offering independent studies, summer studies and apprenticeship training, and their students are increasingly taking advantage of such provision. The option of on-the-job-training is now available to general upper secondary school students in five experimental units.

The second part of the paper describes the cases of Salo and Tornio, selected to represent the Finnish experimental units because they are both good examples of Finnish communities in general.

The Experimental Reform of Finnish Upper Secondary Schools and the Cases of Salo and Tornio

Ulla Numminen

Ministry of Education, Helsinki

Maarit Virolainen

Institute for Educational Research

University of Jyväskylä

Introduction

In Finland the year 1992 saw the start of an experimental reform of secondary education paralleled by the establishment of pilot polytechnics. The aim was to acquire experience that would be useful in the development of postcomprehensive-school education. The experimental reform of Finnish upper secondary schools was designed to enhance the status and quality of upper secondary education and bring together general and vocational education (Numminen, 1995; Numminen, Lampinen & Mykkänen, 1996). The first part of this paper presents an analysis of the factors that led to the experiment, a description of the experimental setting and some results of the experiment. The second part describes the cases of Salo and Tornio.

Earlier Reforms of the Finnish Educational System

The Finnish educational system was reformed between the 1960s and the late 1980s. The parallel education system was replaced with a nine-year comprehensive school. Secondary education was provided by general upper secondary schools offering a general education curriculum and by vocational schools. Vocational education was reformed in the 1980s, after which it comprised 26 basic programmes offering 250 school- or college-level diplomas or special options. The first year of a school or college programme offers a common general syllabus. Completing a school-level diploma takes 2-3 years while a college-level diploma requires 3-5 years. In technical syllabuses college-level education offers two options: technician and engineer training.

Due to the growth of the upper secondary school system, most college-level education and some school-level education has been reserved for secondary school graduates to compensate for their difficulties in acquiring a university place. As yet

only a third of those graduating from the upper secondary school are able to enter university.

Finnish higher education was also reformed during the 1970s. The then Finnish educational system did not, however, include polytechnics. Instead of them there were college-level vocational options based on the syllabuses of the comprehensive school and the upper secondary school.

The general and vocational education provided for 16- to 19-year-olds was made accessible to the entire age group. Vocational education was organized in a way that allowed the entire cohort to acquire either an intermediate- or a tertiary-level vocational education. Despite this provision, 60 per cent of this age group enters the upper secondary schools, while 35 per cent enrol at vocational institutions upon finishing comprehensive school.

Problems in the Functioning of the Educational System

At the end of the 1980s the Ministry of Education assessed the functioning of the Finnish educational system and educational policy from the viewpoint of educational processes, educational outcomes and the school system. Prolonged education, high drop-out rates and overlapping syllabuses were seen as the central drawbacks. The successive completion of several certificates forced the students to go through overlapping programmes, as they were not credited for earlier studies even in the case of parallel educational institutions, let alone in higher education.

The educational system was seen as too divided in view of the new requirements of working life, which included versatile occupational qualifications and a kind of modern multiprofessionalism. General and vocational education were highly distinct from each other, and the barriers between different educational institutions were fairly high. Vocational education had developed into separate, occupation-specific forms of training which had very little shared learning contents. Furthermore, compared with the polytechnics elsewhere in Europe (where they are much more common), the education provided by college-level education had too low a status in the Finnish educational system.

The reforms of secondary education carried out in 1974-1988 were an attempt to make vocational education more attractive by bringing general and vocational education closer to each other. As a result, general education increased its share in the curricula of vocational institutions, but otherwise upper secondary and vocational schools hardly came closer, and the proportion of young people entering general upper secondary schools kept on increasing.

The problems of the Finnish educational system were crystallized in the fact that young people seeking a place in institutions of higher education far outnumbered the places available to new students, with the result that enrolment was delayed on average by several years. The situation typically led to the acquisition of multiple vocational education. In addition to seeking university places year after year, the young attended school- or college-level courses at vocational schools, often with no intention of remaining in the occupations for which their studies were supposed to prepare them. Because earlier studies were as a rule not credited in any way, total study times grew and the average graduation age rose considerably.

The Objectives of Developing the Finnish Educational System

On the basis of its assessment, the Ministry of Education set a number of objectives for the development of Finnish education. The Parliament also discussed the issue in connection with the Government's report on educational policy (Ministry of Education, 1989 and 1990).

The starting point of educational development work in Finland was, as before, fostering educational equality between different population groups and preparing the citizens for increasingly diverse educational demands. A developmental project must be based on an evaluation of the changes occurring in working life and society. Educational contents would have to reflect new kinds of occupational requirements, it would be necessary to increase the share of general education, and its contents would have to be evaluated. One of the goals of the educational reform would be breaking down the established barriers between vocational and general, scientific and practical, theoretical and vocationally oriented curricula, and making them more compatible with each other.

Outdated conceptions of knowledge were to be revised in order to encourage creative learning processes reflecting the new demands of today's information society. The ethical dimension and values of education would have to be clarified both in general and in vocational education. Further, the principle of continuous education was emphasized, obstacles hampering individual choice were to be removed, and greater flexibility was called for. The forms of educational provision were in need of modernization.

Cooperation between different educational levels and spheres was to be increased while clarifying their division of labour; upper secondary schools and vocational schools would have to be brought closer to each other; and differences in their status would have to be reduced. Cooperation between universities and vocational institutions, but also among the latter, would be intensified. It was also regarded as necessary to lower the administrative barriers between different educational institutions (Ministry of Education, 1989).

This analysis of the problems affecting the Finnish educational system was generally accepted. However, it is only recently that its ideas involving cooperation between general and vocational upper secondary schools and students' right to build personal study programmes by making choices from different institutions (which have been the core elements of the upper secondary school experiment) have been accepted as a part of the national educational policy. They are mentioned by the Ministry of Education in the latest Development Plan for Education and University Research covering the years 1995-2000. Even though social and economic circumstances have changed considerably since 1989, most of the observations concerning the state of the educational system still appear relevant today. The changes that have taken place in the position and life situation of young people, such as unemployment (especially when prolonged), difficulties in making a living, and delayed economic independence, etc. would seem to presuppose a new evaluation of and substantive changes in Finnish education - both issues that have so far not been widely discussed.

New Educational Ideas

What kind of educational ideas did the findings of the assessment represent? The central objective was to raise the educational level, although not by increasing the supply of education or by raising study requirements. There was no need to give up the goal of providing education for the entire age group, as that objective had in practice already been reached. Although the problems were analyzed as problems of the educational system, it was thought that the solutions had to be sought in reforms that would open educational structures and improve the quality of learning that is, in mainly pedagogical reforms. The analysis must thus be seen as a critique of the prevailing educational practices or, from a wider perspective, as a critique of modern pedagogy.

The observations concerning the obsolescence and irrelevance of the prevailing conceptions of knowledge and learning, together with the requirement of a more varied education, reflect the need to renew traditional forms of school learning. The debate started in the latter half of the 1980s. Developing education, especially developing it in a more individualized direction and towards increased range of choice, was seen as the solution. The prevailing educational supply as such was thought to be of high quality, but it was provided in a too rigid, restricted and one-sided manner. What was criticized, above all, was the structure of Finnish education and syllabuses that, although differentiated by occupational field, were uniform within their own educational fields, affording few or no options at all.

Furthermore, the constantly changing demands of working life were emphasized, although the then analysis was not very profound; today we know much more about the subject. Perhaps it is just this change in educational ideology, critical views of the relatively closed nature of the educational system, the rigid boundaries between study programmes, and the lack of options and room for individual choice in curricula, that paved the way to the idea of opening the system to all young people (see Lehtivaara & Volanen, 1993).

After the launching of the upper secondary experiment in 1992, some major changes meant to increase the flexibility of the system have taken place as regards both the general and the vocational upper secondary schools:

- (a) The structures of vocational education have been widened by decreasing the number of available examinations from more than 220 to about 170 so as to provide broad-ranging vocational skills which enable the students to cope with a wide variety of duties in their field. At the same time the aim has been to provide more optionality within the educational structure, based on study lines (one study line - one competence). Students may choose 7 courses out of 100 available. The process is still going on.
- (b) Both upper secondary schools and vocational and professional institutions have received new instructions for constructing their curricula so that students can include some courses from other schools in their own study programmes.

The National Board of Education has provided new curriculum guidelines, while the actual programmes are planned in the schools as a part of each school's developmental work. The new guidelines have not enhanced the students' opportunities for choosing the contents of their own education in the sense that they have not given the students any increased freedom of choice inside the pattern of study lines.

- (c) The ownership of vocational and professional institutions is being transferred to local authorities or federations of local authorities.
- (d) Adult vocational education provision has been improved by offering competence-based vocational examinations where adults can acquire a certificate for the competence they have gained in some occupation during years spent in working life or by taking part in different courses arranged for instance by their employers.

These shifts suggest that some of the experience gained in the experimental reform of Finnish upper secondary schools has already been incorporated into the educational system as a whole.

The Setting of the Experimental Reform

Decentralized Planning

The Finnish strategy of educational planning changed between the years 1970 and 1990 in a way that can be described as a shift from closed and centralized to decentralized and open planning (Volanen, 1993). Furthermore, the educational experiments launched during this period were inaugurated as thoroughly decentralized and open processes. The process of planning the experimental reform of upper secondary schools was less centralized and more open than had been the case before, and the same can be said of its implementation. Earlier school experiments in Finland were centrally managed. Even nationwide experiments generally had a narrow leadership, experimental models were applied at a national level, and the curricula and instructions outlining the experiments were fairly detailed.

By contrast, in the present experimental reform of Finnish upper secondary schools the individual units are local or regional experiments. Local planning can lead, and has led, to a variety of experimental settings and to very different solutions. This is desirable, as the purpose, from the beginning, was to gain experiences from different solutions to the need of developing the educational system.

Guiding Thesis

The central elements guiding the work of the pilot units in their experimental process are: 1) a freedom of choice that allows personal study programmes, 2) cooperation between educational establishments, and 3) new forms of learning.

- A. When attempting to increase students' *freedom of choice* to build personal study programmes it is important

to increase the proportion of optional components in the curricula;

to increase the supply of optional courses and subjects both within a single school and as part of the joint educational supply of the different institutions comprising a single experimental unit; and

to analyse what kind of individual study programmes students construct for themselves.

B. Inter-institutional cooperation is mainly focused

- on the joint scheduling of the study programmes offered by the experimental unit;
- on the development of cooperation between teachers; and
- on cooperation in counselling and informing students.

C. New forms of learning presuppose

- the development of novel forms of studying that build on and make use of the differences between general and vocational schools; and
- an attempt to find out how the diversity of learning environments and opportunities within the local experimental unit can be used to stimulate and activate learning.

Outlook

Sixteen localities are taking part in the experimental reform of upper secondary schools, comprising a total of 134 educational establishments. One third of these are general upper secondary schools, the rest being vocational institutions serving different occupational fields. Each locality participating in the experiment has at least one upper secondary school and one vocational institution. The smallest number of establishments participating in a given locality is 2, the largest 27. During the school year 1994-1995 the experiment involved a total of 33,000 students, with the number of students in individual localities varying between 350 and 6,000. The number of teachers taking part is 2,000. In two localities the language of instruction is Swedish.

The institutions range from close-knit urban school complexes to combinations of an urban institution and one or two institutions in the surrounding countryside, with distances between separate establishments as high as 20-60 kilometres. The institutions are run by the state, local authorities or private bodies. In most localities all of the institutions providing education for young people are included in the experiment, but in a few cases only some of them are taking part.

Each of the sixteen local experiments constitutes a cooperative network with an elected leadership. The participating institutions have made an agreement on cooperation, including joint teaching, the administration and financing of the experiment and the apportioning of the costs. The local leadership consists of the representatives of the managers and headmasters of the institutions and of their teachers and students. The regulations governing the experimental reform have allowed some of the powers normally wielded by the educational institutions themselves to be transferred to the leadership of each local experiment. The local leaders can, among other things, decide on the technical details of the experiment, the division of labour between teachers, the contents of the curricula inside the guidelines set for the experiment and the practical details of their implementation, and the use of time and other resources.

Management and Support

As the experiments are locally planned, their management is the responsibility of the local leadership. However, the experiments are supported by training for the leadership and certain key groups organized at the national level. The content of the training has been derived from the perceived needs of the experimental process, and it includes: the planning of cooperation, pedagogical changes, student counselling and information, joint time scheduling, evaluation, planning open learning situations and

establishing international networks. The training is based on a problem-centred approach, taking as its starting point the concrete problems of each experimental unit. Finally, an objective of the experimental reform has been the exchange of knowledge and ideas between the individual experiments. Information exchange is also promoted by a government-financed bulletin that is published four times a year.

The Follow-Up of the Experiment

The central targets of the follow-up are ascertaining the degree to which optionality is realized and monitoring inter-institutional cooperation and the changes occurring in learning processes. The first task is to find out how the increased freedom of choice is reflected in students' study programmes. This will be achieved by collecting annual information about the development of the quantitative and qualitative aspects of the choices available to students, and by carrying out a longitudinal study on how their study programmes are taking shape.

Second, by means of questionnaires and audits, attempts will be made to establish how school activities and learning models are changing, to what extent they increase study options, and what kind of cooperation patterns are emerging. The third question to be tackled in the follow-up is whether there will be changes in the forms of learning. This will be examined for instance by finding out how projects (especially between several institutions) are used in teaching, how autonomous learning is encouraged, whether or not credits are given for earlier studies, and to what extent students are taking courses outside their own school or outside the entire experimental unit. A report on the experiment is published annually.

Curricula and Inter-School Cooperation

In each locality involved in the experiment, educational institutions organize teaching jointly, and students can, in accordance with certain rules, independently construct their own study programmes. They can study either at their own school or at neighbouring schools. There are compulsory and optional subjects, as well as those that can be chosen freely. The number of compulsory subjects has been considerably reduced; instead of the normal 15, the general upper secondary schools participating in the experiment have only 4 compulsory subjects. For students in general upper secondary schools, the maximum proportion of studies undertaken at other institutions is 40 per cent. For students in vocational schools it is 30-40 per cent, depending on the length of the student's studies.

Within this framework, the student can form an individualized, personal study programme, for example in this way:

Upper secondary school students can supplement their studies by vocational courses and familiarize themselves with working life, and/or take courses in other upper secondary schools.

Vocational school students can enhance or diversify their skills and occupational expertise by studying at other vocational institutions, or acquire a broader basis for further studies by including subjects taught in upper secondary schools into their study programmes.

The maximum number of options is offered in the combination examination where the student takes both the Matriculation Examination and an examination for a vocational certificate which is always individualized in content.

Students can take courses in institutions not participating in the experiment, such as open universities, folk high schools, polytechnics, universities or summer schools. They can also include specific kinds of work experience in their studies.

No curriculum has been specifically assigned to the experiment, which basically unfolds and increases choices already present in the existing curriculum. Each student can individually decide to use or not to use the increased options, and the institutions must see to it that their students can exercise this freedom.

The schools have created different models for the cooperative provision of studies. On the one hand they offer separate and optional courses and on the other hand they supply broad study programmes that enable vocational students to take part in the Matriculation Examination. Also, it has become more common to offer vocational programmes designed for the students of general upper secondary schools.

Some schools and institutions are in favour of their students choosing optional or free-choice courses as early as during the first school year, while other schools restrict taking part in the optional and free-choice courses to the second or third school year. Those institutions that have ruled out optional choices during the first school year have motivated their decision with a variety of reasons: making the students feel that they have a school of their own, career counselling and the students' personal development. Seen from the point of view of the students' personal study programmes it appears that the schools are offering ready-made pathways rather than allowing complete optionality or freedom of choice. On some occasions it is argued that such restrictions are necessary because of the structuring of teaching contents.

Organizing inter-school cooperation has required some arranging of curricula, such as, (a) periodizing and/or modularising teaching, (b) joint timing of study periods, (c) synchronizing the timetable and (d) adopting a system without a division into grades that does not bind a student to a group of other students following the same study line. After the start of the experimental upper secondary school reform in 1992, the periodization and modularization of teaching have been incorporated into the new national curriculum guidelines (in 1994). It has been mostly general upper secondary schools that have taken advantage of them.

Joint study periods have been realized by 40 per cent of the experimental units. More specifically, joint study periods have been implemented by 80 per cent of the schools, representing 45 per cent of the experimental units. Three experimental units have not been able to agree on joint study periods. Within a periodized system, the school year is divided into five or six study periods, in most cases lasting five or six weeks. Joint study periods serve not only the practical needs of the institutions but involve pedagogical considerations. Firstly, it is supposed that an established freedom of choice strengthens learning motivation. When students have the opportunity of choosing a combination of studies for a certain period and checking their own choices several times a year, it is argued, it deepens their commitment to and sense of responsibility for their own studies. Secondly, as upper secondary schools are accustomed to lectures lasting 45 minutes while vocational institutions organize their teaching according to sequences that vary from three to five hours, joint time schedules have challenged working methods. They have made it necessary to look for new methods of teaching academic subjects especially at upper secondary schools. Some experience of this kind has also been gained in the experiment involving upper secondary schools not divided into grades.

The models for joint scheduling and cooperative provision of studies adopted by the pilot schools and institutions fall into *seven categories*. Several of these models may be applied at the same time:

Joint cooperation hours. Schools agree on the hours of a day (usually half of the school day) during which the optional subjects are taught. Several such cooperation hours can be scheduled for each week. The model restricts the choices to relatively small study units. The schools should be situated close to one another so that transportation does not take up too much time.

One exchange day per week at other schools. The model allows choosing relatively extensive study programmes. The students' own school must not arrange basic or obligatory studies during the same day. In this model there is no need for transportation in the middle of the day.

Teaching alternating periods at different schools. This model makes possible increased options for the students of small schools that have a small supply of optional courses and for schools that are so distant from other schools that joint cooperation hours are not a feasible arrangement.

Upper secondary curriculum offered by a vocational institution. The student chooses to take both the Matriculation Examination and a vocational degree. After having chosen the double degree the student has no room for any additional studies.

A joint time schedule for the entire experimental unit. Common, obligatory subjects are allocated to fixed periods, so that in principle they can be studied during any study period and at any of the schools belonging to the unit. In other respects students would make independent decisions as to the scheduling of their studies within their study programmes. This presupposes a gradeless upper secondary education that is promoted by the shared use of institutional resources. Furthermore, fully implementing the model presupposes an advanced technical infrastructure and highly developed cooperation between the schools involved.

One week reserved for joint projects and themes between periods. Separate, small-scale common project studies around specified themes can be arranged.

Studying outside the schools' curricula. Students are credited for their studies during holidays, weekends and evenings at other learning establishments, such as summer schools, the open university or apprenticeship training and for studying on their own. Outside studies are credited provided the students and their school have made an agreement on the acceptability of such learning contents.

Development work on the scheduling of joint curricula appears to have been one of the most central and challenging aspects of the experiment. Every experimental unit has constructed a model of some kind for harmonizing their timetables, but once one model has been adopted, development work has seldom continued despite the problems encountered.

Cooperation between teachers has increased during the experiment. Perhaps most importantly, however, the schools have become familiar with each other's teaching practices and begun to value them. Many headmasters say that they have learned to know each other only through the experiment. Those who teach the same

subject have for the first time compared the curricula followed in different schools. Finally, teachers have formed cooperation groups for planning, handling joint counselling responsibilities, informing students, and finding new models of learning and evaluation.

Personal Study Programmes

There is now follow-up data covering three school years and a general picture of the development of the range of choice available is starting to emerge. The number of teaching period allocated to each subject as part of the experiment led to a considerable reduction in the number of obligatory subjects and a corresponding increase in the number of optional subjects. However, only some of the institutions participating in the experiment have taken advantage of the full possibilities of the increased margin of choice. The most common solution has been to reduce the number of obligatory courses in each subject, while the subjects themselves have remained obligatory. The third model has involved keeping to the old syllabus with very little freedom of choice. The decision has generally been made by the teachers in each institution, after which the local leadership have given their blessing. Thus, institutions in a given locality may have had different teaching period quotas.

Making curricula more flexible by increasing the margin of choice seems to represent a fairly great change in the functioning of the schools taking part in the experiments, and they have been assimilating it step by step. In the follow-up study of curricula, headmasters were asked to give information on the development of inter-school cooperation, e.g. how it has varied, how much cooperation there has been, how willing it has been and how it has been organized (Volanen, 1995b). The experimental units can be divided into *four groups* according to the level that they have reached in their cooperation:

Beginners (2-3 of the experimental units). Students of those experimental units that are only beginning to engage in cooperation make less use of their margin of choice than is the rule among students involved in the experimental reform. There is less cooperation between schools than in experimental units on the average. Cooperation is in its first stages of development.

Working experiments (about half of the experimental units). Students make less use of their margin of choice than is the rule among students involved in the experimental reform as a whole and there is only limited cooperation between the schools, but the basis for open cooperation has been built.

Advanced experiments (one fourth of the experimental units). Students of advanced experiments make more use of their margin of choice than is the average and cooperation is wide-ranging even though it is not very open.

Successful experiments (2-3 of the experimental units). Students make more use of their margin of choice than is the average and cooperation is both wide-ranging and openly organized (see Figure II-7, Volanen, 1995b).

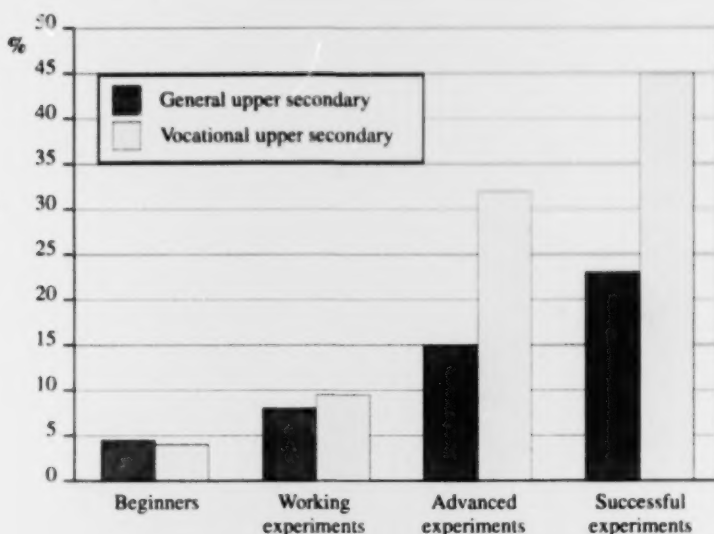


Figure II-7. *The Development of the Choices Made by the Students in Experimental Units* (Volanen, 1995b)

On the basis of this comparison, it seems that the number of choices made by the students depends on the developmental phase of inter-school cooperation. Most of the students made their choices in the first and second year of their studies. Especially general upper secondary school students concentrate on studying for their Matriculation Examination during the third year.

Follow-up research on the students' personal study programmes (N=5600) yield data that makes it possible to compare the extent to which students make choices within and across schools both in the experimental units and in their control group. Both groups of students were studying for their second year at the upper secondary school during school year 1994-1995. Generally, students taking part in the experiment made a greater number of choices than those in the control group, and students of the general upper secondary schools made more choices than those studying at vocational schools (see Table II-9, Vuorinen et al., 1995). Furthermore, students of the experimental schools made more choices within their own school than students in the control group, even though the number of choices made has increased amongst the control group as well. Students taking advantage of the margin of choice available within their own school make choices from the other schools as well. Only 11 per cent of general upper secondary school students and 30 per cent of vocational school students did not choose anything. There was a remarkable difference between the experimental and the control group.

Both follow-up studies have collected information on how the freedom of choice has affected the students' work programmes as a whole. Naturally, the extent and contents of students' choices depend on the provision made by the schools. The ways in which students take advantage of the freedom to build personal study programmes can be divided into six groups according to what they involve:

Table II-9.

The Percentages of Students Making Choices within and across Schools in the Experimental Group and in Their Control Group (Vuorinen et al., 1995)

Students' choices across and within schools	Experimental schools		Schools in the control group	
	1993-94	1994-95	1993-94	1994-95
Choices across schools	15%	23%	6%	7%
General secondary school students	16%	26%	7%	9%
Vocational school students	13%	17%	2%	4%
Choices within schools	49%	79%	34%	57%
General secondary school students	59%	85%	50%	74%
Vocational school students	32%	67%	4%	28%

Studies aiming at broadening the student's personal development and skills (practical skills). Mostly offered by vocational schools to upper secondary school students who want to learn something practical as compared to their theoretical studies at the upper secondary school.

Interest-oriented studies (sports, music and art studies). These studies may be integrated into large programmes that can serve as vocational preparation.

Vocational orientation. Studies supporting career decisions.

Vocational preparation. Studying for both a vocational qualification or qualifications and the Matriculation Examination at the same time.

Advanced vocational or general education studies. These studies are usually chosen from those available at the students' own school. They are the choice of students who already know what they want.

Studies leading to tertiary-level entrance qualifications. Studies that help students enter tertiary-level education. For example, those enrolled at vocational institutions study at general upper secondary schools to pass the Matriculation Examination and gain tertiary-level entrance qualifications (Volanen, 1995a).

The percentages for different types of choices are presented in Table II-10 (Vuorinen et al., 1995). The reasons behind the students' choices vary from personal interests, need for change and practical considerations to vocational specialization and complying with the needs of the labour market. As the experiment began, those who

Table II-10.

The Percentages of Different Types of Choices in the Experimental Schools and in the Control Group (Vuorinen et al., 1995)

Contents of choices	Experimental schools		Schools in the control group	
	1993-94	1994-95	1993-94	1994-95
Practical skills	49%	51%	30%	22%
Interest-oriented studies	48%	55%	30%	31%
Vocational orientation	16%	15%	8%	5%
Vocational preparation	4%	5%	2%	2%
General education courses	5%	3%	2%	2%
Studies leading to tertiary-level entrance qualifications	1%	2%	1%	1%
Advanced vocational or general education studies	..	21%	..	15%
Other	5%	13%	5%	10%

opposed it expressed fears that the students would use their freedom of choice to try to avoid "hard studying", but in practice they have not favoured easy choices. So far, the number of choices made has not changed the students' work programmes profoundly, even though there are some exceptional students who have built 40 per cent of their own work programmes by making use of the options available at their own school (Volanen, 1995b). It is supposed that students' work programmes will become further individualized when improved cooperation between the experimental schools allows a broader range of choices.

Changes in Ways of Learning, Learning Environments and Learning Methods

The experiment unfolds in a processual manner. Now that optionality has allowed increasingly individualized study programmes, the next step is to develop new forms of studying that make use of the rich resources of educational provision and to stimulate learning by using various learning environments. In many schools some of the teaching has been organized jointly with other schools or in the form of projects that comprise a variety of subjects. Such arrangements could be characterized as open learning situations in which the learning material, working methods, and the places and time of studying are planned in groups of learners. As a result, learning is being organized in new ways: teacher-centred approaches are being replaced by learner-centred strategies, subject-centred learning by more versatile study processes, while strictly institution-bound learning is giving way to the acquisition of broader qualifi-

cations. In the experiment, these aims have been realized by developing syllabuses, organizing collaborative projects, giving credit for studies undertaken outside the formal school system, for summer studies and for apprenticeship training.

The schools and institutions themselves judge that teaching has changed in at least five ways during the experiment: there is more cooperation between schools, teaching methods have improved, curricula have been upgraded and freedom of choice has increased, advantage is being taken of evaluation and feedback, and attitudes have changed. Cooperation has increased in many ways, not only between different schools but also between teachers within a single school, and between teachers and students.

When the schools were asked to assess their developmental phase with respect to cooperation in teaching and in the development of curricula, it was found that half of the schools considered themselves to be only on the first stages of developing cooperation, and starting to provide courses for students of the other schools. This point of view was represented mainly by the general upper secondary schools, while three out of four health care schools or social service institutes saw this phase as already passed. Secondly, there was a group of schools that saw cooperation in rather one-sided terms. Either vocational school students were given academic qualifications or upper secondary school students were given vocational qualifications. This viewpoint was emphasized by 15 per cent of the experimental schools. One fourth of the experimental schools considered that the focus of their experiment was enriching both vocational and general education syllabuses (mostly general upper secondary evening schools). Furthermore, one out of ten experimental schools considered that the significance of the experiment lay in the workshop development of syllabuses (mostly health care schools and social service institutes). The different phases of cooperation are linked with the division between vocational and general education and with vocational field and local partners. Extensive collaboration between schools is positively linked with the level reached in upgrading curricula. It is hard to say which comes first: does enriching syllabuses and organizing new curricula create cooperation or is it the other way round?

Most of the experimental units (80%) have arranged projects where several schools and fields collaborate. The number of such projects has increased from 10 projects arranged in 1993 and 24 projects organized in 1994 to 40 projects set up in 1995. When all the multilateral projects bridging several vocational fields within vocational schools are summed up, there were a total of 90 cooperative projects organized in 1995. The projects may be differentiated according to their themes. There have been projects concentrating on the environment, international issues, arts and crafts, social problems, information, entrepreneurship, the political and social situation, vocational specialization and new learning/teaching solutions. One example of such projects is the Lake Vanajavesi project arranged in the experimental unit of Hämeenlinna, where the significance of Lake Vanajavesi was viewed in a historical, commercial, biological and aesthetic perspective. These projects are still unconnected with wider syllabuses and should be developed further.

The experimental schools are also offering independent studies, summer studies and apprenticeship training, and their students are increasingly taking advantage of such provision. The option of on-the-job-training is now available to general upper secondary school students in five experimental units. At vocational upper secondary schools four per cent of the students have taken free-choice training. Happily enough, most of the experimental schools considered that they had only begun to develop this type of provision.

The Cases of Salo and Tornio

The experimental units of Salo and Tornio have been selected to represent the Finnish experimental units because they are both good examples of Finnish communities in general. They have less than 50,000 inhabitants and they differ from each other with respect to the location of their educational institutions. Salo has a compact school complex in the town area and several separate general upper secondary schools located further out in the countryside. In Tornio, the experimental educational institutions are situated close to one another so that they have been able to develop their models for cooperating curricula vigorously. The representatives of the experimental units, Harri Siipola and Laila Ponkala, have each sent an introductory description of their project, presented here in alphabetical order.

The Upper Secondary School Experiment in Salo

The Salo experimental unit consists of four vocational establishments and seven general upper secondary schools. The vocational education institutions - the Vocational Education Institution of Salo and the School of Design and Handicraft of Halikko - are owned by a federation of local authorities. The town of Salo owns the Institute of Commercial Training and the School of Health Care. The general upper secondary schools taking part in the experimental programme are the Hermann and Lauri schools in Salo and the general upper secondary schools of Halikko, Paimio, Perniö, Somero and Koski. The last four schools are situated at a distance of 25-40 kms from Salo. The total number of annual student beginners is about 500. The school year in each school is divided into 6 periods, each lasting 31-32 working days.

The experiment focuses on three main ideas.

In the first phase *upper secondary school students* were offered the opportunity of taking a *vocational package* comprising 24-30 weeks of study in any vocational school mentioned above. The package covers about 40 per cent of the minimum programme of a student's 75 weeks of study.

The package is studied between academic lessons in 4 or 5 parts so that the first two years include two complete sections, each lasting 6 weeks, in a vocational education institution. In the spring of the third year follows a practical training period of 6 weeks if the student has not already taken it during the two previous summer holidays.

A student who chooses the commercial package may complete both the Matriculation Examination and the basic degree in the theory of commerce and administration in three years. A student who chooses any other vocational package may first finish his/her academic studies and then take the basic vocational degree by studying an extra year.

In the general upper secondary school the vocational package was made available only two years ago. Each year about 60 students have chosen it, which means a little less than 15 per cent of the beginners. It has been possible to form a group of 10-25 students in each of these vocational education institutions, a special class to be taught separately.

The Vocational Education Institutions of Salo and Halikko have agreed on weekly *cooperation hours* (6 hours a week; either 2 hours on three days or 3 hours on two days). At that time a student may take an one-week course in any of the two schools during one period. So far this has been possible in only two periods a year. Because of the students' great interest in this option, it will be necessary to expand it in the future; there have been about 700 choices altogether of courses taught either in the other schools or in the other departments of a student's own college.

Because of travelling difficulties, students in Perniö, Paimio, Somero and Koski have been unable to take these separate courses. This problem was solved through a joint timetable ensuring that they will be able to choose any combination of vocational and academic courses offered by the schools of Salo during one complete period.

An educational model is being constructed during the present school year in which a *vocational student may take the academic Matriculation Examination* simultaneously with his or her basic vocational degree.

The costs of the experiment have been divided into two categories: administration, publishing activities and teacher training costs are equally shared by the owners of each school, whereas the actual teaching costs are shared in proportion to the number of students being taught.

The experimental unit is led by a steering board of 23 members chaired by Mrs. Ritva Paulin, Headmistress of the Health Education College in Turku. The board meets 1-2 times a year. The actual hands-on planning and execution is the responsibility of a working committee of seven members chaired by Mr. Ossi Helin, Headmaster of the Hermann General Upper Secondary School, the secretary being Mr. Harri Siipola, Deputy Headmaster of the Salo Vocational Education Institution.

The Upper Secondary Experiment in Tornio

Background

Four schools participate in the Tornio experiment. Two of them are general upper secondary schools, Putaan lukio and Tornion yhteiskoulun lukio, while two are vocational schools - a traditional vocational school, the Vocational Education Institution of Western Lapland and a commercial college, the College of Business and Data Processing of Tornio, (Tornion liiketalouden ja tietotekniikan instituutti). Altogether there are about 1,500 students.

The schools are situated fairly near each other except for Putaan lukio, which lies at a distance of about three kilometres from the other schools. The schools have three different owners. The town of Tornio is the owner of the two upper secondary schools while the vocational schools are each owned by a separate organization.

The experiment has its own executive committee, statutes and a cooperation agreement. The committee prepares a mission statement and a plan for every year. The curriculum offered is based on the experimental legislation, comprising compulsory and optional academic studies, free-choice studies and a certain amount of vocational studies in the vocational schools. Vocational school students are able to supplement their occupational qualifications by using their margin of choice.

Simultaneously with the upper secondary education experiment the Tornio College of Business and Data Processing started an experiment in successive educa-

tional restructuring. As a result of the experiment, curricula have been rearranged and vocational studies have been modularized.

School Year

The school year is divided into five periods. The units have cooperation hours twice a week when a student can attend courses taught in different schools. From this "study menu" the student can choose ten courses per year offered either in his own school or in another unit. This menu may be accessed on the Internet using the WWW.

The studies each school offers are based on the school's strengths and special knowledge. By choosing intelligently the student may build up a useful and wide combination of studies. Students from the upper secondary schools usually choose Data Processing and Entrepreneurship in the College of Business and Data Processing, and studies dealing with cars, electricity, foodstuffs, clothes in the vocational school. Students from the vocational schools usually choose academic studies in the upper secondary schools in order to participate in the Matriculation Examination. The experiment has encouraged multivocational study programmes in the Vocational Education Institution. It is also possible to choose studies in the polytechnic and other institutions in Tornio.

As a result of their optional studies three students from the vocational schools participated in the 1995 Matriculation Examination. Two of them passed in four subjects and gained their student's caps - two in three. It may be worth mentioning that one of the students completed three different examinations during three years: two commercial exams and the Matriculation Examination in May 1995.

Students from different schools have usually been in the same group when studying in another unit, even when the original group is divided in two. There has been more movement between the upper secondary schools and the vocational schools than between the vocational schools. Vocational school students usually choose optional studies offered by their own institution. In this way they may deepen their skills or acquire a broader education in their own fields.

Different kind of projects have been planned and implemented together. Participation in fairs in order to give information about upper secondary level qualifications is usually planned together. Self-evaluation is also practised by teachers and students. As an example of self-evaluation, student portfolios are used as a recommendation when applying for higher education.

Teachers from the experimental units have participated in all the training organized by the Ministry of Education. In addition to this, the executive committee has organized local training.

Internationalization

An international atmosphere is typical of Tornio because of its location on the Swedish border. It is possible to go to school in either Finnish Tornio or Swedish Haparanda regardless of one's home town. Every school participating in the experiment has foreign students taking their exams in Finland. Also, foreign teachers give lessons in some schools.

There have also been school-level international programmes. Two of the experimental schools have been accepted as pilot schools under the Comenius project. Furthermore, the Tornio schools have several contacts of their own with schools in Europe, contacts that can be developed for the use of the whole Tornio experiment.

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Post-16 Strategies and the Experimental Reform of Finnish Upper Secondary Schools

Maarit Virolainen
Institute for Educational Research
University of Jyväskylä

Reform and Parity of Esteem

The experimental reform of Finnish upper secondary schools has searched for ways of improving the parity of esteem between vocational and general education through several strategies that have been incorporated into the core elements of the project. The core elements are: (i) local cooperation between general upper secondary schools and vocational institutions, (ii) students' right to construct personal study programmes by choosing courses from both the vocational and general education institutions in the area, and (iii) looking for new forms of learning that make use of the institutional differences between and diversity of learning environments. (Numminen, Lampinen & Mykkänen, 1996). The following section of the paper will consider the various ways in which these elements relate to parity of esteem.

Firstly, the governmental demand for institutional cooperation has led the experimental units to look for models of joint educational provision. The experimental units have created several models for joint scheduling of study programmes. In some cases, the practical organization of joint study programmes and teaching has meant that the headmasters and teachers from both the general upper secondary schools and vocational institutions taking part in the experiment meet and learn to know each other for the first time. Through cooperation the teachers from different schools have become familiar with each others' teaching and learning contents (Volanen, 1993). The demand for institutional cooperation and the joint provision of education has lowered existing cultural barriers (see Arnman, Kutscha & Young, 1995).

Secondly, the right that students now have to select studies from other institutions gives them an opportunity for comparing and combining courses from general upper secondary schools and vocational schools. General upper secondary school students and vocational students may use this opportunity to build their own study programmes on a broad vocational basis when they choose both to study for a vocational diploma and to pass the Matriculation Examination in a general upper secondary school. Furthermore, general upper secondary school students may take separate courses to enhance their vocational orientation. Studying for both the Matriculation Examination and a vocational diploma makes vocational students eligible for university entrance, thus giving them less limited opportunities for further education. By allowing students to take up vocational post-16 studies without the risk of closing some avenue of further education the experimental setting makes vocational studies more attractive.

The third element of the experiment, searching for new forms of learning, has been built on the idea of taking advantage of the two long educational traditions, vocational and academic, without assimilating them. The pedagogical idea of "learning by doing" has been largely restricted to vocational schools, while giving students tools for a conceptual mastery of their reality has represented the one and only major concern of general upper secondary schools. It is the mutual enrichment of these two pedagogical approaches that has been the aim when Finnish experimental units have been looking for new models of learning. The search has been directed not only at new forms of teaching/learning but also at revising study programmes. On the level of study programmes the mutual enrichment of the two traditions has meant giving the general upper secondary school students more chances for learning by doing and vocational students further and wider educational possibilities. This has been accomplished by means of giving the students the right to construct their own study programmes by combining vocational and general education. (Volanen, 1993).

Looking for new models of learning/teaching has been organised in a decentralized manner by giving the teachers an opportunity to take part in further education courses on open learning situations and thus increasing their pedagogical expertise. As regards the students, new models of learning have been made available in practice through curriculum development, collaborative projects, crediting studies outside the formal school system, summer studies and apprenticeships. (See Numminen et al., 1996). The ideas that have guided those involved in their search for new models of learning are (i) moving from a teacher-centred towards a learner-centred approach and (ii) moving from learning contents organized into separate subjects towards providing studies that combine several subjects under themes based on the concerns of the world outside the school or on the students' own interests.

The leading idea behind this introduction of the two elements of the experiment - the students' right to construct their own study programmes and the quest for learner-centred teaching methods - into post-16 education has been finding ways of motivating students to participate in their own education. Finnish upper secondary school experimentation has attempted to solve the problems of social coherence and inclusion by dissolving barriers between institutions of general and vocational education and giving those who take both the Matriculation Examination and a vocational diploma wider further education possibilities. The inclusion of school drop-outs was a question that the team of international evaluators called to assess the Finnish experiment brought up in their report (Arman et al., 1995). Providing drop-outs with some kind of institutionalized further education has been the aim of the Youth Workshop study project supervised by the Ministry of Labour. The experimental reform of the Finnish upper secondary school is looking for possibilities to cooperate with these projects and to learn something from the pedagogical arrangements made by them.

Reform and the Labour Market Context

The design of the experimental reform of the Finnish upper secondary school has been guided by demands of labour market contextualization in three ways: (a) future prospects, (b) qualification demands and (c) building local networks between schools and employees.

The future prospects of changing careers require an education that prepares individuals into a society where they will have to be ready for intraprofessional and interprofessional changes and capable of communication over multicultural barriers and across boundaries separating distinct professional fields. They should also be provided with constructive tools and models for building their pathways of life through these changes. One of these tools is readiness for lifelong learning. Therefore an aim of Finnish post-16 education has been finding subject-centred ways of learning so as to help learners acquire positive and self-guided experiences of learning.

Secondly, the changes taking place in the organization of work are expected to raise qualification requirements and oblige students to grasp complex processes involving interdependencies between different types of work and different aspects of the same work. This trend makes it necessary to raise the level of all education and especially of that education which has been seen as the preparation of skilled workers and professionals. On the other hand the polarisation of qualifications needed sets a demand for building links between people with different educational backgrounds. This educational goal arising out of labour market changes is related to the task of raising the parity of esteem between vocational and general upper secondary education.

Thirdly, local strategies for taking account of the labour market context have included the provision of on-the-job training. There are both student-based and institution-based arguments for organizing on-the-job training. From the institutional perspective, building local networks between educational establishments and the local labour market is expected to enhance educational arrangements with the latest labour market trends and help both parties make better use of the best expertise available locally. The students again are supposed to gain from on-the-job training not only wider grounds for learning but also motivation for educating themselves.

Besides the rather schematic ways in which the relations of the experimental reform of the Finnish upper secondary school to labour market have been established, the present labour market situation is redefining the relations between the state, individuals and education as a whole. The present high rate of unemployment - in 1995, the Finnish youth unemployment rate was 28.6 per cent (Statistics Finland, 1996) - has affected the general pattern of youth educational provision in Finland. Until recently, post-16 education was provided on a voluntary basis: the number of study places was 1.4 x the age cohort, and those who have wanted to study were financially supported by the state. Only lately has the voluntary basis of post-16 education been altered because the youth unemployment rate has been increasing due to recession. Methods for decreasing the rate of youth unemployment have included forcing unskilled youth under 20 to choose between education, training and rehabilitation with the threat that they will lose their unemployment benefits after spring 1996. In 1997 the age limit will be raised to 25 years. Such state-centred approaches to learning obscure the role of education in society as a whole and are rather contrary to the learner-centred approach emphasized in the upper secondary school experiment.

Reform and the Educational System

The problems of the Finnish educational system that the experimental reform of upper secondary schools, together with the polytechnics experiment, was designed to solve,

were defined as prolonged study times, increased number of drop-outs, overlapping education, a growing gap between general and vocational education, an excessive number of matriculated school leavers compared with relevant educational opportunities, the underrated status of college-level education in international comparisons and the lack of flexible educational response to changing skill and knowledge requirements in the labour market (Numminen & Piilonen, 1994).

The international evaluators of the Finnish experimental reform pointed out the low national profile of the experiments and the constraints that these circumstances created (Arnman et al., 1995, pp. 12-13). Since the evaluation, most of the elements of the experimental reform of the upper secondary school have been adopted as a part of the latest Development Plan for Education and University Research, covering the years 1995-2000, approved by the Finnish Government on 21st December 1995. The elements discussed in the paper are (a) cooperation between general and vocational upper secondary education institutions, (b) possibilities to build individual study programmes and (c) students' right to choose studies from different institutions. Only one aim of the experiments, looking for new models of learning, is not mentioned in this plan.

The first age cohort of students who had studied at the experimental units completed their qualifications in spring 1995. Of those 4,400 who had studied in the general upper secondary schools, 29 per cent had taken courses taught at institutions other than their own into their programmes. Of vocational students 36 per cent had chosen studies from other institutions as a part of their own programme. Furthermore, 100 vocational students had passed the Matriculation Examination of general upper secondary schools (Numminen, 1996).

How does the experiment affect the Finnish educational system as a whole? The qualification system is redefined when students construct their own study programmes by combining vocational and general studies. Incorporating elements of the experimental reform into the educational system as a whole opens new routes through the system. However, it remains to be seen what such changes will contribute to learning. In any case, the Finnish experiment has concentrated on finding dynamic change strategies rather than on creating static blueprints. The new models of learning that the experiments have looked for form a relatively minor part of the students' study programmes, as the figures presented in the February paper show. The construction of study programmes has changed more thoroughly as a result of the experiments.

Reform and Local Networking/Linking Between Schools and Between Schools and Working Life to Find New Forms of Learning for Future Skills

This section will first take a glance at networking between schools, because local networking and linking between schools has been a central strategy of the experimental reform of the Finnish upper secondary school. The schools have built several models for cooperation. Looking for new models of learning through cooperation between several schools has mostly been based on the idea of bringing different disciplines and points of view under some unifying theme that reflects the interests of the students or the concerns of the world outside the school. Such themes differ in

their nature depending on the institution that establishes them. For instance, the Joensuu Arts and Crafts Institute took part in a project where students from several study lines and vocational institutes built and decorated a house for the Marjala Housing Exhibition. In Hämeenlinna's Lake Vanajavesi project, teachers from general upper secondary schools and commercial institutes taught several subjects relating to the Lake in a workshop.

The relations between the Finnish experiments and working life is more complicated, structured by Finnish educational history. Traditionally, training in Finland has been school-based, with facilities built inside the schools, where the students may have run restaurants and repaired cars under the supervision of the teachers in school-run settings. This kind of incorporation of training facilities into school organization has historically been proved effective in the sense that it was part of the national rebuilding strategy after the Second World War (Lasonen & Stenström, 1995). A chain of vocational institutions was established in the 1950s to provide skilled workers with the latest scientific knowledge and to spread the best expertise across the nation. Therefore, in the Finnish setting the stream of innovations has traditionally been thought to run from the schools to working life. This has been the Finnish strategy for improving working life. The central thesis against in-company training as the major strategy of vocational education as such has involved such arguments as (a) there are no pedagogically trained people to guide learning on the job and (b) skilled workers must be provided with a broad general education and good core skills in subjects like Finnish and foreign languages. The project of popular education, of the well-educated citizen, has been interwoven with the strategy of vocational education provision in institutions separated from working life.

The upper secondary school experiments take advantage of the ability of vocational schools to provide facilities for learning by doing by allowing the construction of free-choice study programmes across institutional boundaries. Furthermore, the students may include on-the-job training in their study programmes. In the school year 1994 - 1995, between 1 and 19 per cent (depending on the school) of the general upper secondary school students had chosen on-the-job training as part of their programmes. At an institutional level, the fact that as a rule it is the same vocational institutions that provide upper secondary school programmes that also deliver the polytechnics programmes means implicitly that the institutions are supposed to build more active links with working life. The idea of cooperative developmental projects organised and run jointly by educational establishments and working life has been approved in polytechnics experiments. Polytechnics have large programmes for this, but the number and extent of active programmes involving cooperative development started by the training scheme as a whole is unknown.

Teacher Cooperation in Support of the Reforms

As regards both the search for new forms of learning and the guidance offered for students in building personal study programmes, major responsibilities for finding ways to develop the experimental reform of the upper secondary school have been left to the teachers. The decentralized organization of the experiment has allowed teachers to take active part in the planning of the experiment at a national level. Teachers working at the experimental units have received training in the planning of

cooperation, pedagogical reforms, student counselling and information, evaluation, planning open learning environments and establishing, on a problem-centred basis, international networks grounded on their own wishes.

Broadly speaking, the teachers' relationship with the project can be described in terms of four categories of attitudes: (a) enthusiastic developers, (b) moderate followers, (c) passive resisters and (d) indifferent bystanders (Volanen, 1995). The first group is actively looking for ways of developing their work and generating new forms of learning. They want to educate themselves further and make active use of the opportunities for this that have become available as a result of the project. The second group takes a positive view of the project and participates in it largely because they wish to comply with the demands made by the authorities. The third group thinks that the whole project is just adding to their workload or threatening their jobs. In their eyes it is questionable whether there is any value in participation and they would rather keep out. The last group is indifferent about the project because they think it neither concerns their subject nor offers them anything personally valuable.

Teacher unions have been worried about the effects that the experiments may have on their conditions of service, because they differ between teachers and across schools, for instance according to teaching period quotas. On the other hand, some teachers have seen the project as a way of taking part in the management of the school as a whole and in the planning of its activities and as a desirable step in the direction of flatter hierarchies. The teachers have not lost their jobs due to experiments.

Reform and Qualifications, Flexibility of Student Programmes and Curriculum Development

The starting-point of the experimental reform of the Finnish upper secondary school did not lie in specific labour market requirements arising in some occupational fields but rather in a general anticipation of unforeseen labour market changes that will require new competencies and a better qualified labour force in the future. From the point of view of vocational institutions, the central change that has taken place in the educational system as a whole regarding qualifications and labour market changes is the reduction of the number of distinct occupational qualifications available from more than 220 to about 170. At the same time, vocational curricula have been rebuilt so as to provide broad-ranging vocational skills which will enable the students to cope with a wide variety of duties in their field. Vocational institutions have also gained the responsibility of developing individual curricula based on local needs.

In general upper secondary schools the major change, as seen from the wider educational perspective, concern examinations. Since spring 1996 students have been allowed to take the Matriculation Examination in three parts. The national establishment of upper secondary schools not divided into grades has affected both vocational and general upper secondary education. A development that conflicts with the aim of improving parity of esteem and educational equality that is part of the Finnish upper secondary school experiment is the emphasis that some Finnish universities and polytechnics have placed on youth in their entrance requirements.

The Finnish upper secondary school experimentation has sought to make study programmes more flexible by giving the students more freedom of choice within the bounds of the hours allotted to obligatory studies. However, the move from studies

based on study lines towards studies structured around study programmes has been moderate. Mostly the students have either taken double qualifications or supplemented their studies with some separate courses. In either case the construction of personal study programmes has not meant the complete abandonment of study lines. Those students who have made greatest use of the freedom of choice available inside the structure might be said to have added another study line to their primary one. Those students who have made less use of their freedom of choice have, rather, added some separate courses to their primary study line studies. In free-choice modules schools can also consider the needs of the local working life.

Even though the institutions taking part in the experiment have gained some responsibility and freedom for developing individual curricula, Finnish general upper secondary schools still have national Matriculation Examinations, which are the same for all general upper secondary schools. The compulsory, optional and free-choice modules offered by Finnish vocational institutions, too, are laid down field by field in national curricular frameworks. The free-choice modules give the institutions the opportunity of individual curriculum design, because they form the part of the curriculum that the institutions can design according to their own needs and aims. In the school year 1994 - 1995, the proportion of such institutionally designed studies varied, according to the length of the studies chosen, from 5/80 modules to 10/120 modules in the last school year.

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Two main trends of the French vocational education in the 1990s are decentralization and increasing enrolment in Vocational Baccalaureate programmes. Secondary education comprises 4-year lower (le collège) and 3-year upper (le lycée) secondary school. The last two years of lower secondary education introduce streaming with technical and vocational focus, a feature that may be worth attention in connection with the parity of esteem between academic and vocational education.

At the end of the lower secondary school students attain the Lower Secondary School Certificate that opens three pathways to further studies: the vocational, technological and general streams. In the upper secondary schools students gain a General, Technological or Vocational Baccalaureate that is a national diploma. In France the baccalaureate is officially the first higher education diploma. In 1993 there were 35 different Vocational Baccalaureates. The programmes leading to Vocational Baccalaureates are based on the cross-fertilization of experiences from school-based and workplace-based vocational education and training. Vocational education and training programmes are the responsibility of either the Ministry of Education or the Ministry of Labour depending on whether they are school-based or not.

The Vocational Baccalaureate (*Baccalaureat professionnel*), open to students who have a Certificate of Technical Education, was created in 1985 and is still under constant development. Another new development has been the provision of access to any technological or vocational diploma offered at school or in higher education through apprenticeship training.

The actual start of the reform of French upper secondary education was in September 1992. It gave every young person the chance to receive vocational training before leaving the educational system. The entire age group was to attain the minimum educational level of the Certificate of Vocational Aptitude (C.A.P.).

The baccalaureate diplomas and programmes were reorganised in 1995 with a view to undermining the persistent hierarchy and differential status among the different Baccalaureates. The strategy of making the various Baccalaureates equally attractive led to a new conception of upper secondary education. During the first year of upper secondary education free-choice and optional courses allow the students to test their preferences and abilities in a given domain, giving them the opportunity to change their minds.

In addition to the structural reforms of French vocational education there is a pedagogical reform involving curriculum development. An experiment is underway concerning understanding and teaching languages at the vocational level to secretaries of the service sector, followed by the researchers of the National Institute for Pedagogical Research. They found that the meeting of the different worlds of the labour market, the workplace, teaching, research and students' and teachers' cognitive processes involve confrontations between different cognitive fields and ways of understanding. The research project *Raison graphique* involves a comparative approach whose aim is to capture the

various learning and teaching styles to be found in upper secondary vocational schools. Identifying the cognitive processes forming a vocational level of understanding leads to an improved parity of esteem for vocational education and training.

French Educational System: An Overview

René Levrat

International Centre for Pedagogical Studies, Sèvres

Introduction

A well known feature of the French educational system is its centralised structure. This main characteristic has both positive and negative consequences as regards administration, finance, teacher recruitment exams as well as curriculum design and evaluation.

Sometimes this centralised nature of our educational system may lead to an inaccurate view of the situation that obscures significant local evolution and change. It is advisable to keep in mind that recognizing regional/local disparities, sometimes based on historical or social foundations, may enable us to achieve a deeper understanding of the system.

Instruction is free in public educational establishments and universities. Education is compulsory and secular between the ages of 6 and 16 (religious instruction for instance is not part of the curricula except in Alsace and Lorraine, where its inclusion is due to particular historical conditions). Private educational establishments receive public funding provided that they allow public authorities to monitor their educational standards and staffing. Taking into account the local particularities seen here and there could help to sketch out the possible evolution of the system and contribute to drawing a more concentrated picture of the system. Two main trends of the French education have been characterized in the 1990s.

Centralisation vs. Decentralisation

Furthermore, recent developments have led to the increased devolution of powers of decision to the regional or local level, particularly as regards the field of vocational education and training. This recent evolution is deeply tied up with values and political statements.

Student Enrolment Changes in Academic and Vocational Streams

There has been a sharper increase in the percentage of pupils reaching the baccalaureate level. In the eighties barely 34 per cent of an age group attained this level, while in 1993 we reached the proportion of 70 per cent. The enrolment of pupils in general and technological programmes remains stable but the number of those taking the vocational baccalaureate is steadily growing.

Another point worth noticing is the increasing number of young people studying for their vocational diploma as part of an apprenticeship. The Employment Act passed five years ago makes it possible to take any technological diploma awarded by a school or institution of higher education through apprenticeship.

Below in Table II-11, in a few words, is a suggested list of selected keywords related to the French context that may be useful for a possible broad-based comparative approach.

Table II-11.

The Contrastive Issues of the French Educational Contexts in the 1990s

The contrastive issues in France	
Centralisation	Decentralisation
Student enrolment trends in academic streams	Student enrolment trends in vocational streams
School-based vocational education and training	Workplace-based vocational education and training
School-based apprenticeship	Workplace-based apprenticeship

Compulsory Education (Age 6 to 16)

Pre-School Education and Primary School

Pre-school education is provided for children aged 2 to 5. In 1995 35 per cent of 2-year-olds and 99.5 per cent of 3-year-olds attended an infant school.

Primary Education (Écoles Élémentaires)

Primary education is divided into three cycles lasting 5 years. This particular organisation gives gifted pupils the chance to skip over grades, but originally it was conceived in order to avoid repetition by giving special attention to individualizing teaching. About 80 per cent of the pupils complete elementary school at the age of 10 and enter the "college" (middle school or lower secondary school) at the "normal age".

Next I will indicate some points and issues related to primary education, the recent changes it has undergone and its possible future developments:

Primary school teachers are trained at the university at the baccalaureate level 4+;

Scientifically literate primary school teachers remain a scarce resource;

Due to unemployment and the economic context, the career is gaining in attractiveness;

More school teachers have an advanced academic degree.

Secondary Education

Secondary education consists of two phases, lower secondary education (junior high or middle school) or *le collège* (grades 6 to 9) and upper secondary education (senior high school) or *le lycée* (grades 10 to 12).

Lower Secondary Schools (Grades 6 to 9)

The lower secondary school has been part of the French academic system since the sixties and has now taught a whole age group. The lower secondary school, "*le collège*", is an establishment where "all children receive a secondary education immediately following their primary education". Education in the lower secondary school (*le collège*) consolidates and completes primary education and lays the first foundations of secondary education. The first two years (*grades 6 to 7*) are *unstreamed years*.

For the last two years (*grades 8 to 9*) the pupils can choose between a *general* or a *technological stream*. These two streams lead to the end of the lower secondary school. They differ in their contents and pedagogical methods but offer the same possibilities of orientation. A detailed historical view of past and recent evolution focused on the technical stream in the lower secondary school could be of some interest in considering the problem of the "parity of esteem" between academic and vocational education.

The lower secondary school lasts 4 years. The first two years are unstreamed, the last two years streamed into general education and "*classes technologiques*" i.e. general education complemented with a technical/vocational bias.

Technology (a compulsory subject) as such is taught in the general stream for 2 hours a week, organized into the following subject fields:

Mechanics and Robotics;

Industrial Electronics and Computer Science;

Economics and Management, including the use of computer technology.

In the technological stream Technology is taught seven hours a week in classes with a vocational/technological bias emphasizing knowledge of the workplace.

The Lower Secondary School Certificate

The level of education attained at the end of the lower secondary school is controlled by the "*Brevet des collèges*". This examination allows the evaluation of the level of knowledge and skills acquired by the pupils in terms of the official national programme.

Gaining or not gaining the School Certificate has no effect on further orientation or on being moved up. At the end of the lower secondary school two possibilities are open to the student: the vocational stream which leads most often towards active working life, and the general and technological streams.

Upper Secondary Schools (Grades 10 to 12)

General and Technological Upper Secondary Schools (les Lycées d'Enseignement Général et Technologique). More and more secondary-school students wish to continue in the upper secondary school. In 1994 more than 70 per cent of them had access to the baccalaureate. As is well known, a higher diploma has a powerful and well-attested impact on a graduate's chances of finding a job. Moreover, as a study of the Direction of Evaluation by the Ministry of Education (1995, p. 5) puts it: "A higher academic

qualification not only increases the chance of finding a job but also raises the average level of the salary received". As a result, the numbers of upper secondary school students have been rising for the last twenty years. The same report further states (p. 10):

"The figures for upper secondary school enrolment have ceased to rise, at the same time as the increased enrolment in vocational education is confirmed by the rise of apprenticeship figures in 1993 and 1994."

The aim of general and technological upper secondary schools is to prepare the students for the general or technological baccalaureate. Instruction is organised in two cycles of classes. The first year, which is unstreamed, orientates the student to one or the other baccalaureate while the two following years are used to prepare them for their chosen baccalaureate.

Vocational Upper Secondary Schools (les Lycées d'Enseignement Professionnels).

About 25 per cent of pupils aged 15+ enter a vocational *lycée* leading after two years of studies to a C.A.P. (*Certificat d'aptitude professionnelle*) or a B.E.P. (*Brevet d'études professionnelles*). The C.A.P. or Certificate of Vocational Aptitude is a craft qualification. The B.E.P. or Certificate of Technical Education is a less narrowly specialised diploma. For the last 10 years there has been a massive preference for the B.E.P. as compared to the C.A.P. Apprenticeship remains an important way to achieve C.A.P.

Baccalaureate. The baccalaureate is a national diploma. It marks the end of 12 years of education (5 years in primary, 4 years in the lower secondary and 3 years in the upper secondary school). The baccalaureate is officially the first higher education diploma.

The Vocational Baccalaureate (*Baccalauréat professionnel*) provides a high-level qualification within a particular profession. Created in 1985, this diploma is open to students holding a B.E.P. or Certificate of Technical Education corresponding to the proposed Baccalaureate.

Vocational Baccalaureates are set up in close co-ordination with the relevant occupation in response to precise occupational needs so as to allow the students to immediately find a job corresponding to their qualifications. Ninety per cent of students with a Vocational Baccalaureate find a job in keeping with their training within six months after receiving their diploma.

In order to give parents and students a clear picture, the earlier multiplicity of choices has been reduced (21 different technological baccalaureates were available in 1984). The reduction of streams leads to the following organisation, in force since 1993:

A. 3 streams for General Baccalaureate:

Literature (L.)

Economics and Society (E.S.)

Science (S.)

B. 4 streams for Technological Baccalaureate:

Industrial Science and Technology (S.T.I.)

Service Science and Technology (S.T.T.)

Laboratory Science and Technology (S.T.L.)

Health Care (*sciences médico-sociales*) (S.M.S.)

C. 35 different Vocational Baccalaureates (1994)

Table II-12. shows the numbers of students graduating from different *baccalaureate* programmes in 1994.

Table II-12.
Numbers of Baccalaureate Graduates in 1994

Baccalaureate programmes	Number of graduates	Total
General Baccalaureate		280,600
- Literature	69,700	
- Economics and society	75,000	
- Natural sciences	135,900	
Technological Baccalaureate		131,300
- Industrial science	34,700	
- Laboratory science	4,800	
- Health care	13,000	
- Service sector	76,800	
- Tourism	2,000	
Vocational Baccalaureate		63,700

Each Vocational Baccalaureate aims to provide a high level of vocational qualification. These Baccalaureates have been created in such occupational fields as sales, CAD/CAM, maintenance of automated systems, etc.

The proportion of hands-on activities is particularly high - during 2 years the student have to go through a fairly long period of training in companies (an average of 16 weeks within 2 years). The skills and knowledge acquired during these periods are evaluated. Seven subjects are compulsory, of which three involve evaluating work done on the job.

Those involved in designing the Vocational Baccalaureate were initially experts in the field of further education. They accomplished a successful switch from concepts and methodology used in adult education to initial vocational education. In a sense they cross-fertilized school-based and non-school-based vocational education and training.

School-based versus non-school-based vocational education and training are in France the focus of political, didactic, strategic and financial debate. The division between school-based and non-school-based education is structurally clear although recent developments stemming from the Education Act (1989) and the five-year-old Employment Act (1991) suggest that there may be profound changes to come.

In schools vocational programmes are under the responsibility of the Ministry of Education, while non-school training programmes are under the jurisdiction of the Ministry of Labour with the support of a special separate authority, the National Vocational Training Delegation. The recent attempt to merge the two ministries (under the auspices of the Ministry of Education) failed few months ago.

Nevertheless, the main objectives of the French educational system set down in the Education Act (1989) and confirmed by the five-year-old Employment Act (1991) is to ensure that all school-leavers have acquired at least some training qualifications.

In the end, I would like to highlight the following aspects of the French context and our common work on "Post-16 Strategies":

The Vocational Baccalaureate is under constant development;

The status of technology as a general compulsory subject remains low;

The number of students in higher education was strongly increased: a growth of 65 per cent in 11 years;

Youth unemployment;

Access to any technological or vocational diploma in school or higher education through apprenticeship or training;

Academic recognition of work experience.

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Confrontations between Different Cognitive Fields and Restructuring a Relationship to Knowledge among Vocational Teachers

Anne Lazar

National Institute for Pedagogical Research, Paris

The Project of *Raison Graphique*

This project has been going on for fifteen years because it began as an Utopian undertaking. The utopian idea behind the project was that there is an equality between different kinds of intelligence, understanding, different kinds of work. For several reasons - cultural, economic, social, cognitive - in this project, against the general opinion, we have chosen to develop and concentrate on the writing process and on understanding the structure and the nature of technological knowledge.

In my Institute, *l'Institut National de la Recherche Pédagogique*, we had three research projects on understanding and teaching languages at the vocational level for secretaries of the service sector. An original idea of these experiments was the link between the teacher of technology and the teacher of French. The "binomial experiment" means a team of two teachers working together. They work together and discuss their work both beforehand and during the lessons. Little by little, they will have constructed an area of interaction, a common territory, where they cooperate, sharing perspectives. Mutual processing has broken down the barriers separating teachers of different subjects.

During the research process, confrontations between different cognitive fields and ways of understanding have come up when the different worlds of the labour market, the workplace, teaching, research and, furthermore, the cognitive processes of teachers and students, have met. The results of the research project focus on the technological notion of *raison graphique* as applied to the fifth-level (the French B.E.P., Certificate of Technical Education) technological upper secondary education curricula for service-sector occupations.

The Concept of *Raison Graphique*

Raison graphique is a common concept used in research based on a comparative approach to cognitive learning and teaching styles in vocational schools. The notion of *raison graphique* was introduced by Jean Bazin and Alban Bensa, who based the concept on the ideas that Jack Goody presented in his book *The domestication of the*

savage mind [in French *La raison graphique*]. The *raison graphique* is related to the graphical and textual representation of technological knowledge. This concept describes how the writing process shapes our way of making sense of knowledge.

The core hypothesis involved a strong link between the teaching of the technological *raison graphique* and the hierarchy among the different teaching contents. In vocational schools, *raison graphique* acts as a key modifying factor upon the very status of knowledge and its links with both teachers and students. Thus it turns out to be a central issue.

An external approach to the treatment of written texts in service-sector discourse and the above-mentioned field was followed by an internal approach. The latter was implemented a posteriori through an investigation conducted by French and service technology teachers involved in action research. The aim was a parallel approach to and analysis of vocational terminology and an emphasis on writing as a part of technological, vocational learning activities outside linguistic and literary concerns.

The main results have led to the building of a theory of *raison graphique* as an aspect of vocational training for the service sector. Together the analysis/assessment of its teaching and the definition of its influence upon how learners construct their knowledge bring about a better understanding of the original question. Two main facts can be pointed out: the first concerns the structure of the diverse service technological contents and the *raison graphique* that organises them. Its transposition so as to foster transfer has been subject to an experiment that resulted in a modification of the status of the various teaching contents. The second fact concerns the new links that both teachers and students establish with knowledge when regulated by the frequent use of *raison graphique*.

Raison graphique is not only about the different kinds of writing process but also about using symbols, codes, tables, documents and texts, reports and so on. The methods of the project were ethnomethodological: how do the agents see the problem? How do they process the problem to resolve it and what kind of cultural divisions, classifications, differentiations, do they display while doing this, and how do these cultural orderings that appear in their presuppositions affect the way students are taught at different levels?

Finally, the social control involved in and the ideology underpinning the teaching of technology in such a hierarchical way slows down the development of teaching and learning while the concept of "*raison graphique* and technology" presents a critique of this kind of control.

In our Leonardo Project we will try to grasp and improve the parity of esteem for vocational education, and therefore the cognitive processes forming the vocational level of understanding are important.

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Post-16 Strategies and the French National Reform of the Upper Secondary School

René Levrat

International Centre for Pedagogical Studies, Sèvres

Anne Lazar

National Institute for Pedagogical Research, Paris

Introduction

This paper brings together some considerations related with the six themes defined during the workshop of the Post-16 Strategies Project held at the University of Jyväskylä in February 1996. The first section, on parity of esteem, addresses two adaptive responses of the French educational system. The first part of the section focuses on the reform of upper secondary education, the second part on the implementation of a new diploma created initially on the recommendation of employers in 1985, the Vocational Baccalaureate. The second section on reform and the labour market context discusses issues related with the great changes that have taken place in the French service sector in the last few decades while the third section on reform and the educational system gives a summary of some relevant topics linked with the reform of the French educational system. The fourth section, which discusses linking between schools and working life, presents some issues concerning the nature of the links between *lycées* and SME (small and medium-sized enterprises). The fifth section on teachers' co-operation in support of the reforms is summarized in a few points, and the final section provides an overview of the French context for the flexibility of student programmes.

As may be seen, the six sections representing the six themes overlap so that it seems difficult to keep each theme apart from the five others. Nevertheless, if we keep in mind the comparative nature of our project it may be useful to quote here Dr. T. O'Dwyer (1996), Director General of the DG XXII:

" Whilst no direct comparison or evaluation of the educational systems of EU countries has been made, certain patterns or trends common to several countries do emerge - the decentralisation of administrative and financial arrangements with more responsibility for management at institutional level; regional or local responsibility for training linked to economic and social development; efforts to extend the period of schooling, by lowering the compulsory school entry age, raising the leaving age or by providing incentives for young people to stay on beyond compulsory schooling; efforts to expand or extend pre-school provision; common general education, normally coinciding with the period of compulsory schooling, which usually ends after the lower stage of secondary education; the introduction or reintroduction of more formal assessment procedures during schooling; a diversity of options and routes in (post-compulsory) secondary education and in vocational training; attempts to improve the status of vocational

qualifications as compared with academic qualifications; the development of post-secondary and advanced vocational education and training; the introduction of modular courses in secondary education, training and higher education; efforts to improve the diverse forms of initial teacher training.¹

In a few words Dr. T. O'Dwyer sums up the main trends emerging in the different school systems in the EU, and these different trends are precisely and directly related with the six Leonardo themes.

The Reform and Parity of Esteem

Initiatives at national level aimed at bringing together the world of education and the world of work have a direct bearing on technology education in secondary school. Although it is not the subject of our present study, it would be advisable to see in what respect the academic-vocational divide has roots in 11-16 secondary education, particularly in the different changes made in the curriculum in connection with CDT referring to Arts and Craft Technology (or *Arbeitslehre* and *Technikunterricht*). Technology education is partly designed to foster the ethos of work and enterprise.

The reform of French upper secondary schools was implemented in September 1992. The basic principles of the reform are given in the framework law on education²:

educating the entire age group to at least the level of the Certificate of Vocational Aptitude (C.A.P.);

80 per cent of the entire age group to reach Baccalaureate level in five years;

the Act relating to work, employment and vocational training: "Every young person must be given the opportunity to take up vocational training before he or she leaves the educational system."

The changes began with grade 10 in 1992. The Baccalaureate was reorganized in 1995. Two main objectives were clearly identified:

taking into account the great diversity among pupils entering upper secondary education; and

fighting against the strongly established hierarchy between the different Baccalaureates (at the top of this hierarchy the C Baccalaureate - Mathematics - worked like a magnet on gifted pupils; being strongly selective it eclipsed the other routes, devaluing them in the process).

Another motivation for change was the very complicated structure and organisation of the different Baccalaureates. It appears necessary to give both parents and pupils a clear view of the system, to provide different pathways to excellence and to

¹ Dr. T. O'Dwyer, Director General of DG XXII "Education, Training and Youth" of the European Commission in the preface of 'Structures of the Education and Initial Training Systems in the European Union'. EURYDICE/CEDEFOP. Document available online: <http://www.cec.lu/en/comm/dg22/struct/struct.html>.

² Framework law on education n°89-486 of 10th July 1989.

ensure for every pupil the best achievement commensurate with his or her capability. One of the main objectives of the reform was to offer attractive alternatives to the C Baccalaureate. Gifted pupils chose this "*voie royale*" without consideration of their real interest. The question was not the parity between academic/general education and vocational education but, rather, how to make the different Baccalaureates equally attractive. As a whole, the strategy was based on a new conception of upper secondary education.

The first year of upper secondary education is conceived as a time of free choice. Grade 10 is called unified (common core curriculum). In addition, two optional courses are compulsory. The purpose of these courses is to allow the pupils to test their preference and ability in a given domain and to give them the opportunity to change their minds at the end of the first year, say switch from the technological pathway to the general one and vice versa. In fact, the first reports on the results of the reform shows that the choice of optional subjects plays an important role. As an official document put it:³

"The range of options had to be coherent; although it is possible to correct a mistaken choice, generally it is advisable to take a second foreign language as one of the two options."

Bad definition of the choices offered to pupils, lack of information, lack of pedagogical methodology appropriate for pupils entering grade 10 make curriculum and pedagogical reform necessary. Three hours of weekly modules are compulsory, comprising instruction in small groups in French, Maths, a modern foreign language and History/Geography (45 min. for each subject). The modules are intended to permit a new style of teaching and to make possible flexible curriculum arrangements, flexible organization of pupil groups and flexible timetables (it is possible to organise co-operative project work within the time allocated for modules).

To assist the teachers in gaining a clear idea of the competencies of the cohort entering the tenth grade, an evaluation is organised. Test books are provided by the ministry together with software to allow the statistical processing of the data and thus help the teachers to organize groups for the different modules. This assessment is not an examination. The subjects assessed are a foreign language, French, History/Geography and Mathematics. For the vocational pathway, the subjects assessed are French, Mathematics, Economics and Technology.

The first published evaluations of the reform process discuss the problems encountered in greater detail and give some information on the drifts noticed here and there. A text by the Ministry of Education published in June 1994⁴ firmly states the purpose of the reform:

"The function of optional subjects is to give the students an opportunity to test their choice ... there is no official requirement for the student to go on to the second year of upper secondary education ... because of this, special (temporary) courses had to be organized for the second year of upper secondary education so as to promote student mobility." In fact this possibility remains obviously theoretical.

Observations show that more motivated pupils are choosing L (literary) and E.S. (social sciences) Baccalaureates where previously they were in some cases a second choice. In 1994 an increasing number of students were choosing S.T.I. (Scien-

³ Additive au dossier de l'ONISEP Objectif BAC Edition 1992.

⁴ Organisation des enseignements année scolaire 1994/95, Bilan de la mise en place de la rénovation pédagogique des lycées en classe de seconde et première des voies générales et technologiques B.O.N °22 du 2 juin 1994 p. 1607.première et de seconde.

tific and Technological Baccalaureate) while the number of pupils choosing a Tertiary Baccalaureate "remains within manageable limits". But few students choose the Scientific Baccalaureate and those choosing it seem to be displaying a gender bias. Technological Baccalaureates are, in spite of the aims of the reform, "option-driven", and some *lycées* refuse to admit pupils if they have not chosen the right optional course in the previous year. According to the report the modules, intended as an environment for innovative pedagogical processes (teamwork, project work) are not everywhere seen in this light the report.

The reform of upper secondary education, "*renovation pédagogique des Lycées*", provides some elements and indicators related with the issue of parity of esteem. Pupils preparing for a Technological Baccalaureate have the opportunity to observe linkages between school and industry. In some case these linkages between *lycées* and SME involve fruitful co-operative projects (see further Section Four). Such linkages emphasise the difference between academic and technological learning.

There is little evidence of real linkages between academic and vocational learning in terms of flexible pathways and opportunities for mutual recognition. Transferable skills or key competencies have no real weight vis-à-vis the subject-based school system.

Project-based education, learning by doing, is commonly associated with pedagogical strategies conceived for the less able pupils. The dominant trend in upper secondary education is the academic one. These questions had to be addressed from different points of view, those of parents, pupils, policy-makers, teachers and headmasters.

Some think that all the changes taking place in the French educational system "reflect the vast movement away from the status of a worker, organised by the French school system with the consensus of the society at large."⁵ The creation of the Vocational Baccalaureate seems related to the quite paradoxical situation sketched above. The Vocational Baccalaureate, established in 1985 alongside the two other pathways, introduces two major innovations. For the first time the term Baccalaureate is associated with the word vocational, and furthermore the enterprise is recognised as a place for learning. "There is real parity between the school and the workplace, for with the introduction of this new diploma the educational system shares the responsibility for education and training with the enterprise."⁶

Despite the success story of the Vocational Baccalaureate, some questions related with parity of esteem remain open. The procedure of evaluation is still strongly academic. For instance, the period of time spent at the workplace (16 to 22 weeks) is evaluated by means of a written record produced by the pupil. Furthermore, the weight given to this record in the final evaluation is about 10 per cent of the total score.

The Vocational Baccalaureate is generally seen as a great step forward, making it possible to give the title of *bachelier* to a qualified worker. In fact, however, the old hierarchy remains unchanged: General Baccalaureates are the direct way to university and managing positions in business, industry and public and local administration,

⁵ Myriam Campinos-Dubernet Le baccalaureat Professionnel; une innovation in Formation -Emploi N°49 mars 1995.

⁶ Histoire de l'enseignement technique, P. Pelpel, V. Troguer, Hachette Education, 1993.

while Technological Baccalaureates are appropriate for those destined to become middle managers and technicians and Vocational Baccalaureates, again, an appropriate way to provide qualified workers.⁷

Reform and the Labour Market Context

The growth of the service sector is one of the major phenomena in economic life nowadays. Two of the key characteristics marking its development are firstly the growing number of women in the labour force and secondly the massive spread of new technology. The careers grouped together in the sector are remote from the production process, constituting

- (a) under 45 per cent of all jobs by comparison with the 55 per cent accounted for by working-class jobs,
- (b) under 45 per cent of the whole working population by comparison with the 55 per cent accounted for by working-class jobs,

but as a whole there is no direct correlation between service sector activities and service sector jobs. The evolution of the sector can be divided into three periods: before 1974, 1974-80, and after 1980.

In the first period, from 1955 to 1974, the number of employees in the service sector rose by 35 per cent, whereas that of industrial employees increased only by 13 per cent, while agriculture saw a fall of 47 per cent. Work in the tertiary sector held a more attractive image for women, increasingly resting on an employment pattern that included secretaries, accounts staff, bank clerks, typists, and such jobs as telephone operators, tourist guides, information-desk clerks and usherettes. Jobs of this kind experienced twenty years of expansion during the euphoria of a boom era for every economic sector, accompanied by soaring female employment with women finding a particular outlet for their talents in them.

From 1974 to 1980 the service sector becomes increasingly central, omnipresent and harder to pin down, in that non-productivity, the element that previously was used to define it, ceases to be an acceptable yardstick. Owing to extensive technical progress making for productivity gains, some service sector professions are transformed by the need to increase their competitiveness.

The dominant factor for change in the sector is computerization. New automated communication systems for collective use appear; electronic mail, office equipment, computer-assisted design and production. Such forms of computerization affect whole professions such as secretarial work and the post office. In 1977, 52 per cent of the working population are employed in the service sector, whilst office jobs form a category both multifaceted and in transition, for the nature of such tasks has changed. The personal computer, office electronic equipment and telematics have moved in,

⁷ La construction des politiques d'éducation et de formation dir B. Charlot. Presses Universitaires de France. Paris, 1995.

and the simpler tasks are being phased out. Ticket-window staff and counter clerks are increasingly superseded by vending machines and cash distributors.

In 1980 office automation is transforming office work, which finds its true dimensions with the automatisisation of the service sector. The sector becomes the world of communication and information processing. Its development is organised around the mechanization of office tasks involving word processing and filing, and subsequently the creation of sophisticated jobs dedicated to linking such material to localized networks. The consequences of such developments are elaborated as follows.

A New Way of Working within the Firm

As the process of re-equipment progresses, the nature of the work required makes greater demands on abstract thought, and that is a new development, for it demands an ability to think in computer terms. This inevitably will involve excluding a growing number of people unable to rise to such levels of abstract theory. This requirement and the new technologies are thus closely linked, for the new office technician is no longer working on letters, but on the way those letters are to be laid out.

The gradual disappearance of repetitive tasks goes hand in hand with a growth in skilled jobs. The world of business now requires that employees display multiple areas of competence and the ability to transcend disciplinary boundaries.

New Qualifications

Between 1982 and 1987, 60 per cent of office workers had professional qualifications, and 80 per cent of such jobs were held by women. In businesses of every size, new staff taken on during the period were increasingly highly qualified.

New Expectations About Education and Training

People have increasingly come to look upon training as something that should be designed to:

- reduce the gap between training content and job skills;
- foster the ability to adapt;
- smooth out possible clashes between the demands of professionalization and those of general education.

Such issues have become of particular importance with respect to lower levels of training. Requirements have tended to focus on attitudes towards communication, mastery of context and networks, teamwork and the ability to handle multiple tasks.

What are the main issues facing general education in relation with such developments? Do they pose problems for academic education?

Nowadays the stress is laid on developing forms of training based on systems analysis and on mastering programmable technologies and the financial, industrial and cultural factors involved. Lastly, the ability to transmit knowledge is becoming an essential component of education. Problems such as how to reconcile the new technologies with the learning abilities of pupils, or how to rethink syllabuses in the light of the need to use such technologies, are being mulled over. There is a new approach to the written word, with tables, graphs and pages displayed on computer screen showing new forms of presentation different from paper-based ones. Pupils need to be able to understand and master the logic and reasoning behind the graphical process.

Thought is being devoted to what paradigms should be favoured so as to transform a *locus* previously seen as designed for the educationally and socially underprivileged into one in which young people can study for and obtain professional advancement. Is reducing the gap between technical education on the one hand and general academic schoolwork on the other the right response to the industrial system's requirement for change and adaptability?

Reform and the Educational System

The changes and new requirements brought by the 1980s tie new positions taken by society's institutions to technical and professional training. In 1984 a political decision was taken by the French Socialist Party, then in power, to educate 80 per cent of the children up to the level of the Baccalaureate. This means that we have to face up to the problem of those young people who do not make the grade.

In a technical society, training involves the workplace. Social change and career redeployment go hand in hand, and the educational system was perceived to be trailing behind and endangering the modernisation of the economy.

The 1980s saw frequent policy statements on technical education and professional training, with a recurrent demand that the general educational level be raised. Many changes were brought about in technical and vocational education, which had until then been the Cinderella of the educational system. Between 1982 and 1986, key decisions were taken enabling the training programmes of vocational *lycées* to be considerably altered, and such establishments acquired a new dignity.

The main changes involved:

- creating technology classes for pupils in the 13 to 15 age bracket, a development designed to provide general training and open the way towards preparing for the B.E.P. or Certificate of Technical Education and C.A.P. or Certificate of Vocational Aptitude;

- instituting a job-oriented Vocational Baccalaureate in 1985;

- setting up University Institutes of Vocational Training;

- giving a new gloss to the Certificates of Vocational Training, covering a wide range of careers. The marked improvement in skills at level 5 is being jeopardised by technological change;

- organizing complementary post-certificate courses to help send students to where the jobs were.

In 1992 the results were declared positive: vocational technical schooling had helped to achieve the aim of bringing 80 per cent of the young people up to Baccalaureate level.

The Reform and Local Networking/Linking Between Schools and Working Life to Find New Forms of Learning for Future Skills

We could find evidence of the common trend involving attempts to foster or develop links between the world of education and the world of business and industry, whether in general education, in technological education and of course in vocational education. It is only to be expected that this process is stronger in the vocational route, but it could be of some interest to consider the different manifestations of such developments in the technological route.⁸

The centralised nature of the French school system entailed two major concerns, on the one hand the national curriculum and exams, on the other hand the recruitment of teachers. The trend now is to permit local initiative. This is why a given *lycée*, provided it keeps within general guidelines and secures the approval of its Board of Governors, may put the stress on particular schemes. The decisions taken are incorporated into the school plan.⁹ While remaining within the framework of the national curriculum, a *lycée* might be able to build itself a strong public image by developing solid links with local business and industry. Our purpose in this section is to focus on the Technological Baccalaureate and the Vocational Baccalaureate.

In the technological route, a link between school and industry could represent a real exchange of expertise between the partners. Few SME could afford the costs of a R&D study of or redesign work on their products. Making an agreement with a *lycée* on a matter in the interest of both parties (product redesign or R&D) leads to mutual benefits :

The pupils have authentic tasks to work on.

The teachers gain access to professional and up-to-date software or machines to perform their task, they strengthen their expertise and keep abreast of their area of competence.

The headmaster gains some support for the school in terms of money and equipment.

The results attained contribute to the good public image of the school.

SME invest little in R&D, so that a link between SME and a local school could help to initiate a movement towards increased R&D investment. Even if the problem to be solved is not an urgent one, the SME makes a first step towards R&D at a reasonable cost. Such initiatives lead to a mutual recognition of expertise.

⁸ The French case is typical for the great multiplicity of attempts to involve enterprises in vocational education -1980 training period in enterprise (2/3 weeks) - 1985/85 twinning between schools (all types of schools) and enterprises. The -89 Law allows "training periods in enterprises these training periods had to be organised accordingly with the curriculum and they are compulsory for schools preparing to a vocational qualification." In others words it is not forbidden to organise such training periods for pupils in general education.

⁹ School plans are developed in order to implement national objectives while taking into account the characteristics of the local school population and the economic environment.

The links established between vocational *lycées* and enterprises have other aspects, too. The compulsory 16- to 22-week training periods in an enterprise required of pupils preparing for a Vocational Baccalaureate are by nature very different in terms of financial and didactic implications.

New forms of learning for future skills make reference to the relationship between knowledge systems and practical action and particularly to forms of partnership and relations between schools and enterprises. Dual strategies in education and training should be based on apprenticeship as the best-known form of alternating initial vocational training (under an employment contract) but also on the different types of training regulated by the Ministry of Education.

Each individual programme of alternating initial vocational training could be supplemented with various underlying learning approaches and conceptions:

Alternating initial vocational training with a deductive approach (the workplace is where technical and scientific knowledge is applied);

Alternating initial vocational training with an inductive approach (the workplace-centred approach in which the curriculum is based on work situations and workplace requirements);

Alternating initial vocational training with an integrative approach (the two types of knowledge and contents are defined and articulated).

Teachers' Co-Operation in Support of the Reforms

A feature of this aspect of educational reforms in France are local initiatives, involving teacher training colleges, to develop in-service teacher training classes related to needs identified at school level. At the same time, such liberal trends as devolving power to the local level, the greater flexibility of the curriculum and increased links with local enterprises are considered negative developments by teacher's unions. Further, all the consequences of a unified qualification structure for teachers in different types of school must be considered, particularly those affecting vocational and technological schools. In view of such complexities, there is a strong consensus among teachers in favour of the status quo and as in Scotland, innovation fatigue is widespread. Also, there are increasing criticisms of managerialism.

Reform and Qualifications, Flexibility of Student Programmes and Curriculum Development

The French reform programme was thought out in accordance with the following assumptions. To cite the conclusions presented by the policy group on Education and Training which made a major contribution to the work of the Eleventh National Plan in 1993:

"France, like its European partners, recognizes that its citizens have a right to education and training. The educational system has to respond to requirements of an increasingly

complex nature, ever stronger economic pressures, and significant demands for social progress. The exercise of a right to education and training, in conformity with our ideals of democracy and equity, justifies bringing reflection on the educational system into confluence with economic, social and cultural issues."

On the question of whether education should be general or vocational, the report went on:

"All intellectual work must be removed from the workshop so as to be concentrated in the planning and organization offices", asserted Taylor in his 1903 work *Shop Management*."

The report by Danièle Blondel submitted in 1989 to the Junior Minister for Technical Training concluded that young people were ill-prepared for and ill-prepared by the general education they had received. Her report laid stress on the requirements of the world of work and those of a democratic society in the field of general education.

The policy group suggested a pragmatic orientation based on a conception of the word "qualifications" that would include knowledge-based, social and work-experience criteria and be based on the following lines.

First, the education and first-level training system would have as its main mission enabling individuals to acquire knowledge and skills, and so build up their first qualifications. Teaching would have a career-oriented purpose. Second, continuing education would help people develop their knowledge and abilities, and so build on their previous qualifications. Third, professional experience and practical training would be included as a condition of qualification.

In taking qualifications as the main convergence point, the group intended to facilitate reflection on and selection among the syllabuses and methods of general academic, technological and vocational routes and career paths and make it easier to understand how one might move from one route or path to another, how in-school training could complement on-the-job training, and what are the links and transition points between school and business, public administration and the social partners.

To render these varied career paths and their particulars more easily graspable, a study is being carried out into the possibility of creating a nationally accepted nomenclature of training schemes, taking into account duration of training, the relative proportions of technical, vocational and general training elements, grading in the training pyramid, and specific fields of application.

Spurred by findings by the CEREQ and the Ministry of Labour about the difficulties young people are having in successfully negotiating their transition from training to obtaining a job, the policy group has indeed given priority to the issue of employment. Young people frequently find themselves having to join the various government schemes set up for young people aged 16-25, and ending up in the ranks of the long-term unemployed.

The Vocational Baccalaureate

The various forms of this Baccalaureate were created in 1985 as a result of the Act relating to technological and vocational schooling and requests emanating from the occupations themselves. It was supposed to help achieve the aim of educating 80 per cent of children up to the Baccalaureate level. It is designed to enable young people in the B.E.P. or C.A.P. classes to pass up to the Fourth training level, and it introduces a means by which the pupil can alternate between school attendance and work experience. The Vocational Baccalaureate requires two years to prepare. It is offered to lower-sixth-form pupils of both general academic and technological *lycées*, as well as to those who wish to resume their studies after three years of professional activity.

The study time includes spending 16-22 weeks on the job on the basis of a contract made between the headmaster and the firm's manager. This period is an obligatory part of obtaining the diploma, and as such the work accomplished is graded or marked.

In terms of the French law this diploma opens the way into higher education, but it is designed primarily to make the learner's integration into working life easier.

General and vocational education are still sharply separated in the German educational system, and young people choose relatively early whether they will go on vocational or university education. The school types available guide their students towards general education or vocational training: *Gymnasium* leads to university studies while *Hauptschule* or *Realschule* leads to vocational training within the dual system. Several mixed forms have been established in some federal states (*Länder*), and a new trend in upper secondary education emphasizes "permeability" of the upper secondary school programmes. Many young people aspire to *Abitur* (Matriculation Examination) without really wanting to go to university, a situation which requires reformers to pay careful attention to the educational or training expectations held by the young.

Oberstufenzentren (OSZ, tertiary colleges or upper secondary education centres) were established throughout Brandenburg in 1991. The OSZ encompass various types of upper secondary schools, such as part- and full-time vocational schools, technical upper secondary schools and general upper secondary schools, bringing together all the school types of German upper secondary education (*Sekundarstufe II*). They thus serve as good testing grounds for integrative models aimed at combining vocational and university qualifications.

The general German public still does not consider vocational training "educational" in ideal or material terms. The educational reform phase of the 1970s failed to achieve in practice the equality of vocational and academic education that had been established in educational theory. Ideally education and training should encompass the individual, imparting abilities that go far beyond formal qualifications, knowledge and skills. The problem is that an activity to a high degree determined by instruction, with little room left for independence, runs contrary to educational goals which throughout German history have been inextricably embedded in the idea of intellectual emancipation. Integrative concepts that are to be taken seriously reflect this fact - they must reconcile training requirements and educational goals, as dictated by the exchange value of labour, in such a way that the final achievement does not fall short of either. It is vital to answer the question of what is educational about vocational training. A concept of integrated education remains inadequate if it merely grants students both vocational and university-entrance qualifications with largely unchanged curricula. To become an educational goal, being qualified to enter higher education, being "qualified to study", must be definable in terms of concrete competence.

Working life in highly industrialized nations requires employees who have mastered both the vocational and academic components of their jobs. They must be both motivated and able to shape the work processes and the technology they employ through independent work scheduling and decision-making. This involves a level of competence that not only enables the employee to confidently carry out his or her job but which is defined in terms of the independent *actions* of a developing

personality. As a result, vocational education and training encompasses tasks that open up a genuinely educational perspective.

The integrative conception of education created in Brandenburg stems from the combined traditions of Western and especially of former East Germany's educational systems. The philosophy behind the tradition of polytechnic education in former GDR supports the integration of vocational and academic education. The aim of the Brandenburg Model Project is to achieve a fully integrated model in which the vocational training aspect fulfils in practice its obligation to educate an individual as a citizen. The integration of instructional domains will take place through a new model linking academic and vocational learning on the basis of the elements of content and didactic method. Examining the vocational school first, the focus is on concepts of creatively oriented teaching and active learning. The learning outcome of highly integrated curricula is a "competence to act" that entails critical reflection and independent participation in the design of both the technical and organizational aspects of future work.

The foundation of the Model Project's comprehensive approach is the hypothesis that academic education hinges not so much on the imparting of specific educational material as on encouraging the development of exemplary specialised and generalised social and personal skills. It is thus assumed that the qualifications needed to engage in higher studies can be acquired to a large extent through technical and economic educational material and that vocational training is, in fact, an environment favourable to their acquisition.

The integration of vocational and academic education appears to be the only model capable of at least minimising educational segregation into groups completing their school education *with* and *without* university entrance qualifications while helping to accommodate conflicting personal desires for meaningful work and a fulfilling private life. Human resources in the form of independent and creative people are becoming important in a world of competitive global and national economies. This creates a bridge to the working person's right to independent and free personal development, i.e. to general education. The Brandenburg Model Project, especially because it combines workplace and classroom learning, makes an important contribution towards achieving the goal of free personal development.

The scientific monitoring of the project involves an evaluation of the conditions under which the Model Project is carried out and of the measures undertaken during its course, which will help to assess to what extent it is possible to transfer it to other environments. The model classroom project and the workplace project are both monitored scientifically by the same project team, which facilitates the coordination of the two project sections. The joint curriculum group consists of the teachers and trainers, the leaders of the classroom and workplace model projects and the scientific monitoring team. The scientific monitoring focuses on curriculum development based on action-oriented accompanying research.

The Brandenburg Model Project aims to provide its students with a capability to engage in university studies that is the outcome of vocational training and leads to parity of esteem. The Brandenburg reform

project is based on the assumption that parity of esteem is above all a question of the quality and standard of vocational training. At the same time, instead of giving up the idea of general education, the Project tries to pay attention to a justified concern for general education, i.e. the promotion of personality within a modified type of vocational training.

The Brandenburg Model Project: Combining the Apprenticeship System and the German Dual System with Access to Polytechnics

**Rainer Bremer
Gerald Heidegger**

Institute for Technology and Education
University of Bremen

The Educational Policy Framework of the Brandenburg Model Project: The Implementation of a New Regulatory System and Its Optional Reform.

Brandenburg was the first of the new German *Länder* (federal states) to include "model projects for the integration of vocational and general education" in its school laws and to begin laying plans for such projects shortly after the state-wide establishment of *Oberstufenzentren*, OSZ (tertiary colleges) in 1991. The OSZ are centres encompassing various types of *Sekundarstufe II* (upper secondary school), such as the *Berufsschule* (part-time vocational school), *Berufsfachschule* (full-time vocational school), *Fachoberschule* (senior technical school) and *gymnasiale Oberstufe* (grammar school with sixth form). Beyond the OSZ, Brandenburg's new school law does not define schools for young adults other than *Gymnasium mit Oberstufe* (grammar school with sixth form) and *Gesamtschule* (comprehensive school). OSZ combines all school types of *Sekundarstufe II* and thus creates positive conditions for testing integrative models aimed at combining vocational and university qualifications.

Integrated education schemes are nothing new. In the old *Länder* there were numerous models for integrating vocational training and general education, some tried over long periods of time during the educational reform phase of the 1970s. Experience was gained mainly in Hessen and North-Rhine Westphalia, leading to the continuous spread of *Kollegschulen* (sixth form colleges) in the latter *Land*. For many reasons involving both educational theory and policy, however, none of those models can be easily adopted in spite of the long pilot periods for integrative conceptions of education, for people's situation and motivations have changed radically since the 1970s. Twenty years ago the practical goal (although there were further programmatic goals) was to modernise the curricula, especially in schools providing general education, and to bring those of the vocational schools into line with the latest developments in science and technology (one reason being to eliminate what was felt at the time to be discrimination against vocational education and training). Today, however, reforms of vocational education systems face different and even more serious problems. Actually working against the activities aimed at modernising vocational training, the educational reform further enhanced the attractiveness of *Gymnasium*. Vocational

courses were not made even remotely as attractive as was suggested by the talk about the equal status of vocational and academic education. The general public still does not consider vocational training "educational", whether in ideal or material terms. Without being forced to conclude that the integrative concepts of the 1970s failed, it is evident that the equality of vocational and academic education, as established in educational theory, was not achieved in practice.

Viewed in ideal terms, education should encompass the individual, imparting abilities that go far beyond qualifications, knowledge and skills. Whether the goal of providing education through vocational training is perceived in broad or narrow terms - concretely defined in educational theory - in each case the reality of everyday work and life interferes with such aspirations. An activity that is to a high degree determined by instruction, with little room left for independence, runs contrary to educational goals which throughout German history have been inextricably embedded in the idea of intellectual emancipation. Integrative concepts that are to be taken seriously reflect this fact - they must reconcile training requirements and educational goals, as dictated by the exchange value of labour, in such a way that the final achievement does not fall short of either. It is vital to answer the question of what is educational about vocational training.

The material aspect of education should be understood as the qualitative assurance of that to which the student is entitled upon receiving a certificate. However, a concept of integrated education remains inadequate if it merely allocates double entitlement, i.e. grants both vocational and university-entrance qualifications with largely unchanged curricula. An educational standard requires a more specific understanding of what is involved in being qualified to enter higher education. To become an educational goal, "qualified to study" must be definable in terms of concrete competence.

In the past educational reforms, the ideal and material aspects of education presented here were not considered with a view to providing viable structural models of school education and training. The most distinct indicator of this is perhaps the contradiction between the appeal of *Gymnasium*, as witnessed by the high demand for the *Abitur* certificate (university entrance qualification), and the actual results reflected in the progress and outcome of the subsequent studies. Preparation for university in the sixth form of *Gymnasium* can certainly not be described as satisfactory on average; *Abitur* students and *Fachoberschule* students often fall far short of what is required of them at university, as evidenced by the large numbers of drop-outs and the difficulties that *Abitur* students without vocational training have even with the basic course of study. It is true that German universities are barely able to maintain regular operations because their capacities are exceeded by orders of magnitude, so that they have themselves become a factor hindering effective study. Nevertheless, it seems reasonable to assume that the *Abitur* student's "qualification to study" at university must be acquired there rather than being automatically handed out with the university entrance qualification certificate. There is a preference for *Gymnasium* education as university preparation regardless of its actual merits. The key is the entitlement as such; it opens the door to more courses of further education than any other certificate, while "lower" certificates not only prevent university study but also hinder later vocational advancement. To summarise, the current situation - a situation essentially brought about by the 1970s phase of educational reform - is one in which vocational training has in fact become even less attractive instead of gaining in equality. The school system in *Sekundarstufe II* still seems to be characterised by a contrast between education and training. The route via vocational training is avoided, is considered to

hold less opportunity, and appears to be associated with content less conducive to personal development than a grounding in *Gymnasium* subjects.

In spite of the above, school authorities in the new German *Länder* were forced to adopt the West German regulatory system of school education and training, characterised as it was by federalist peculiarities. In Brandenburg at least the option of integrative educational conceptions was retained. The contrast between vocational and academic education was less marked in the GDR. There was *Polytechnische Oberschule*, POS (polytechnic secondary school), and there was *Berufsausbildung mit Abitur*, BmA (vocational training combined with *Abitur*, Matriculation Examination). For a period of time (in the early 1980s), up to 12 per cent of the *Abitur* class completed the BmA, i.e. one in eight of those with university entrance qualification received vocational training as well, combining on-the-job training and classroom education under the regulatory system of the GDR. In contrast to the West German dual-qualification system combined with *Abitur*, as in *Kollegschele*, no purely "school professions" (assistant professions) were learned in the GDR; rather, the students qualified for skilled occupations which in West Germany would have been considered part of the dual system.

Vocationally relevant technical content was a matter of course in the upper secondary school curricula of the GDR, and also formed part of the BmA programme. This and the tradition of the POS created good conditions for an integrative conception of education in the *Land* of Brandenburg. In spite of what are now two established major systems - *Sekundarstufe II*, *Gymnasium* and OSZ - which inevitably reproduce the social divide between education and training, the Brandenburg Model Project for the integration of vocational and academic education is perceived as an opportunity to uphold the tradition of polytechnical education while responding to changing demands for vocational qualifications.

The Combined Model Project: Integrating Vocational Training and *Fachhochschulreife*

The BBiG/FHR Combined Model Project consists of two model projects aimed at combining vocational training in a recognised skilled occupation as defined by *Berufsbildungsgesetz* (Vocational Training Act) with the attainment of *Fachhochschulreife* (university entrance qualifications restricted to a specific field of study). Two model projects were undertaken in view of the fact that vocational training according to the BBiG takes place in two locations, on the job and in the classroom. In the past, in West Germany, dual qualifications were provided by combining regular instructional approaches in the classroom (vocational school and *Fachoberschule*, senior technical school, or the sixth form of *Gymnasium*). The workplace functioning as the classroom was not usually included in the dual qualification system. By contrast, the BBiG/FHR Combined Model Project integrates the roles of the school (*Oberstufenzentrum Schwarze Pumpe*) and the workplace (LAUBAG), the former as part of a project commissioned by Brandenburg's Ministry of Education, Youth and Sport (MBJS), the latter in connection with a scheme supported by the Ministry of Economy, Medium-Sized Enterprise and Technology (MWMT). The idea is to demonstrate that it is possible to provide dual qualifications in *Sekundarstufe II* without it requiring longer training times. In the Combined Model Project students can complete courses as electronics

engineers (emphasis on the shop floor) or as industrial mechanics (emphasis on the shop floor) while obtaining *Fachhochschulreife*. This gives the successful student an opportunity to make a relatively late decision, consistent with his or her (post-)adolescent identity development, on whether to choose a course of tertiary further education or - depending among other things on the labour market situation - start working right away.

New Production Concepts

They will be well prepared for the latter by virtue of their dual qualifications. In highly industrialised nations we can observe a change taking place in industrial culture, indicating the growing significance of independent work that simultaneously requires sound communication skills. The "new production concepts" require teamwork and tapered hierarchies. The result is - from the managerial point of view at least - an increase in the "need" for academic components in vocational education and training, something that in most people's estimation is promoted, rather than restricted, by the growing importance of information and communication technologies with their associated qualification requirements.

International comparisons, such as the surveys conducted at the University of Bremen's Institute of Technology and Education, support this appraisal. To achieve international competitiveness it will become increasingly important to promote employees' ability to engage in such forms of work. The highly qualified specialists so urgently needed in industry must have a thorough grasp of such technologies as CNC (Computer Numerated Construction), pneumatics, PLCs and process control. This requires that they have both the interest and the ability to shape the work processes and the technology they employ through independent work scheduling and decision-making. The introduction of "new production concepts" involves human-oriented forms of work, which are taught in "generalised" vocational training. A high standard of vocational training must include an increasing number of elements of academic education. The foundation must be laid at the beginning of vocational training in order to guarantee and accelerate the process of continuous further education made necessary by technological change.

Academic Education through Vocational Training

The same analyses indicate that it is not sufficient to impart such extra-functional or process-independent *qualifications* as are required by the given educational and ergonomic conceptualisation - as for example in the key qualifications model, where they are embedded in a system of innovative *behavioural* requirements. In fact, the success of these concepts involves expanding such skills, independently of subject-matter, to a level of *competence* that not only enables the employee to confidently carry out his or her job but which is defined in terms of the independent *actions* of a developing personality. As a result, vocational education and training encompasses tasks that open up a genuinely educational perspective. An area of compromise develops between management and employee interests, in which the *need of the individual* for free personal development - i.e. for "academic education" - can be satisfied at least to a degree.

The linking of vocational training with *Fachoberschule* is achieved by conducting a comparative analysis of the contents of on-the-job and classroom education and the POS subjects to reveal avoidable overlapping and define possible ways of combining or integrating the content of different areas of learning. Curricula revised or rewritten in response to such an analysis, both for the on-the-job and classroom sections of the

course, will make possible the necessary time savings as compared with the conventional method of completing two courses of study, often consecutively.

Integrated Model. The concept pursued here is not additive as in the dual qualification, where in extreme cases the unmodified vocational course is supplemented by additional courses in "academic" subjects. Instead, the aim is to achieve a fully integrated model, in which the part focusing on vocational training is not a mere declaration of educational policy; rather, it should fulfil its obligation to educate an individual as a free subject in society perceived as an arena for personal development. To achieve this, the autonomous-cooperative organisation of work and technology - the guiding idea of vocational education as developed in the ITB - should re-orient vocational training processes towards concrete practical work. If this is to be effective it must also involve on-the-job training; moreover, this kind of reorganization of vocational training can only develop its full potential when workplace and classroom learning are combined as they are in this project. Since this restructuring of vocational training can certainly promote communication, creativity and conflict-resolving skills, the school will assume the important task of further developing its skills of constructive criticism by adopting scientific paradigms.

The integration of instructional domains will take place through a new model linking academic and vocational learning on the basis of the elements of content and didactic method. Examining the vocational school first, the focus is on concepts of creatively oriented teaching and active learning. The academic approach thereby encompasses both the POS subjects, normally described as "academic", and the vocational subjects. Conversely, the former are also influenced by vocational learning problems and thus contribute to the development of occupational competence.

Combining vocational and academic learning is a decisive precondition of consolidating a skilled worker's training in moments of crisis by raising both its social status and, in particular, its standing in terms of expected and offered content. On the one hand international surveys confirm that there is a tendency towards the "semi-academisation" of the skilled workforce, but on the other hand they point out the serious problem of a new divide in society, segregating students into groups *with* and *without* university entrance qualifications when they complete their school education. In view of the growing importance of "post-industrial" features in the make-up of today's social conditions, the move towards "post-material" value systems should gain momentum in the long term. In these circumstances the trend towards the acquisition of higher formal certificates will grow, as they promise better opportunities for personal development and the unfolding of creative, free (independent of working for a living) potential. The integration of vocational and academic education appears to be the only model capable of at least minimising educational segregation while helping to accommodate conflicting personal desires for meaningful work and a fulfilling private life.

Competence to Act. Realising this new model of combined vocational and academic learning is an important goal. Over and above the much-discussed foundation in educational theory of dual qualification models, the concept is used as a basis for orienting learning towards the guiding idea of the (partially) autonomous organisation of work and technology. This permits even indirectly vocation-related learning processes to be endowed with an independent academic slant. The "creative learning" model for its classroom component is still under development. A pilot concept, with scientific support from the ITB, is currently being tested in vocational schools in North-Rhine Westphalia. Its point of departure is the goal of fostering "competence to act". It goes beyond such a competence model by promoting among the students the development of a type of competence enabling both critical reflection and inde-

pendent participation in the design of future work as regards both its organisational and technical aspects. However, this requires an action-oriented instructional method which precludes the teaching of "specialised theory", detached from practical work, in vocational schools. The design approach also permits a bridge to be built, in terms of teaching goals, between vocation-related learning material and the content of the POS subjects.

The foundation of the Model Project's comprehensive approach is the hypothesis that academic education hinges not so much on the imparting of specific educational material as on encouraging the development of exemplary specialised and generalised social and personal skills. It is thus assumed that the qualifications needed to engage in higher studies can be acquired to a large extent through technical and economic educational material and that vocational training is, in fact, an environment favourable to their acquisition.

The Social Organisation of Work and Technology. An orientation to the guiding idea - the social organisation of work and technology - can be used to realise an academic educational construct that transcends traditional educational theory and sociology. Academic education in this sense no longer merely fulfils the sociological function of assigning young people to their future places in working life or - more accurately - of denying them access to certain occupations (the "allocation function"); nor is it simply a matter of weeding out young people according to vocationally inadequate criteria based on exaggerated demands for abstract ability (the "selection function"). The theoretical educational goal of "general formation of individuality" (Humboldt) will be retained, albeit with less emphasis, but today that goal should no longer be realised primarily through the critical assimilation of "cultural objectifications" from the history of thought. Rather, despite the harsh criticism of the neo-humanitarian academic educational theory and its successors, the potential for autonomous personal development is present even in those processes of learning that have a utilitarian orientation. However, realizing this potential requires liberating vocational learning from the constraints of mere *adaptation* to the status quo and anticipatorily aligning it with the guiding idea of the cooperative *co-organisation* of work and technology.

Conclusions

As regards the *on-the-job* dimension of the integrated education course, the Model Project should specifically determine the extent to which

learning, work and development (independent organisation),

technical, social and personal interests and skills,

basic and further education

can be meshed so as to prepare the student for future tasks under the conditions of the aforementioned "new production concepts". The construct "competence to act" introduced above can be applied here as well, being based on interaction between technical, methodical, instructional and social competence. Technical competence goes beyond technical knowledge and understanding in that it includes specialised abilities such as those of abstract, analytical and integrative thinking (or the ability to grasp processes and systems).

Methodological competence also implies an ability to make independent and creative choices of strategies with which to complete a work task and assess the results. Learning competence further encompasses the ability to venture independently and methodically into new areas of knowledge, and the willingness to continue learning. Social competence is chiefly a matter of teamwork that involves both cooperation and

the ability to resolve conflicts, together with its prerequisites, communication and criticism.

A competence model of this kind requires the methodical organisation of the processes of workplace learning, entailing considerable re-orientation away from conventional learning processes. The goal is that trainees develop and daily put to the test in their practical training environment concrete alternative ways of completing work tasks and independently assess, using a wide range of criteria, their solutions and the resulting outcomes. The project method, as employed in some companies with notable success, is particularly suitable for this.

This competence model should be expanded in the workplace by following the guiding idea of independent, social organisation of work and technology. Only then can a new quality of vocational training be achieved that meets educational criteria.

The decisive didactic structural model is represented by combined learning and work tasks. Its main feature is that work requirements are transformed into tasks that demand independent planning, execution and monitoring, prompting the student to engage in creative organisation. On the other hand, they are designed so that the learning effect of the demands is enhanced as much as possible. This enables theory and practice to be integrated in the workplace and in the classroom.

Periods of work in companies, covering about one-third of the on-the-job training time (especially in the third year of training), play a special role. The educational and on-the-job tasks must be defined so that they ensure as close a link as possible with the demands of the workplace. This is achieved by learning resources which, graded and starting with simulation, convey these demands in three stages culminating in a representation of reality. The envisaged simulations must always be conducted in conjunction with the concrete reality of the workplace so as to provide real-world conditions for the creative orientation of the training. As a result, elements which promote the personal development of the trainee are directly integrated into the action-oriented learning processes. The workplace classroom can thus claim to contribute significantly to general education, which should influence the corresponding courses of education that provide basic qualifications.

The Concept of Scientific Monitoring

International comparison shows that many European countries (e.g. Scandinavia and the Netherlands) value general education as part of vocational learning processes higher than does Germany. This applies even more to the Japanese educational system. In the USA the quality of on-the-job training has become the subject of a heated debate concerning the importance of widening the scope of general education and extending this concept towards vocational education. The international discussion centres around the competitiveness of different economies. However, because human resources in the form of independent and creative people are gaining significance especially in this area, it becomes necessary to foster this potential. This creates a bridge to the working person's right to independent and free personal development, i.e. to general education in the strong sense of the word. Despite the considerable success of the dual system, the German vocational training and education system will not be able to ignore these developments. We can therefore expect a growing demand for initiatives to integrate vocational and academic education. The Model Project,

specifically in its combination of the workplace and the classroom, makes an important contribution towards achieving this goal. It could boost the required nationwide modernising reform of *Sekundarstufe II*. Scientific monitoring involves primarily analysing the conditions under which such projects are feasible while at the same time investigating specific measures that enable such integration. The cooperation of schools and businesses plays a major role in this endeavour. An evaluation of the conditions under which the Model Project is carried out and of the measures undertaken during its course will provide important information about its transferability to other environments, and thus enable the nationwide introduction of comparable courses of education.

Other Model Projects

Dual qualifications of similar nature are currently being established in the same occupations in Lower Saxony, Rheinland-Palatinate and Bavaria. The models vary considerably in their conceptions of vocational training and in their overall educational policy goals. While *Kollegschule* in effect constitutes the model in Rheinland-Palatinate (Trier and Neuwied) and Lower Saxony (Emden), by contrast Bavaria, where the workplace classroom is excluded from the measures, is striving for cooperation with businesses that take on trainees and apprentices but is not trying to implement the integrated educational concept that is the priority in Rheinland-Palatinate. In both *Länder*, *Fachhochschulreife* is to be linked to trained occupations in electrical engineering and metallurgy, while in Bavaria only particularly promising trainees are admitted to the model courses. The point of this project is to keep gifted young people inside the vocational training system, at least for a while, not to alter the educational goals of *Fachoberschule* and vocational school. The goal is scientific patronage of the above-mentioned model projects, and to some extent the ground has already been prepared.

In Brandenburg the model classroom project and the workplace project are being scientifically monitored by the same project team, facilitating the coordination of the two project sections, ensured on site by cooperation over many years between the participating teachers and trainers. The joint curriculum group consists of the teachers and trainers, the leaders of the classroom and workplace model projects, and the scientific monitoring team.

Monitoring Measures

To anchor the BBiG/FHR Model Project within the ongoing discussion on vocational training and educational policy, the scientific monitoring team will document the various stages involved in the practical implementation of approaches to dual qualification, comparing it mainly with the dual system but also with experiments conducted in other countries. The curricular measures undertaken for this purpose will be analysed in a variety of ways, with particular attention paid to the cooperation between the classroom and the workplace. Future perspectives will be outlined in the form of scenarios describing various educational policy goals and theoretical constructs representing the integration of vocational and general education. In this process, the focus will be placed on the social policy goals of equal opportunity and the theoretical construct of the dialectics between the guiding ideas of creativity and criticism. This will also contribute to the formation of pertinent theory.

Curriculum Development

Given the demanding goals of the Combined Model Project, the scientific monitoring team sees its main task as supporting those actually carrying out the envisaged innovation - the teachers and trainers - at various levels of activity and with various

methods. In accordance with the concept of action-oriented accompanying research, the emphasis will initially lie on developing and revising the curriculum. The activities undertaken to this end will be formatively evaluated, mainly by means of thematic talks with the teachers and trainers, designed to give feedback on the intermediate results. For the most part, the term "curriculum" covers the following aspects (with specific variants for the workplace and the classroom):

a framework concept with a practical and theoretical foundation for integrated courses of education, specified for the aforementioned vocational areas and differentiated to reflect the occupations involved;

teaching schedules for the planned courses, based on the nationwide skeleton teaching schedules and at the same time following the orientation of the framework concept. Both documents will be produced in collaboration with the relevant teacher groups and the joint curriculum group, diverging views will be explicitly identified as such;

didactic assistance to be given to the professional community after testing and revision in order to promote comparable initiatives elsewhere.

The implementation of the plans in and the introduction of the materials into teaching practice in terms of the creative organisation of the processes of education and qualification will also be supported by didactic/methodological consultations within the limits of available resources. In this process we can make use both of experience gained in related projects and of theoretically attained orientation - the organisation of instruction, the teaching and learning methods and the optimisation of resources for action-oriented instruction.

Besides providing incentives for the realisation of this concept of primarily didactic effect, one of the main objectives of the scientific monitoring team is to anchor the principle of creativity in curriculum work. Specifically, an analysis of the skeleton teaching schedules shows that generally a dominant adaptation approach prevails. This includes its main orientation to conventional hierarchical forms of work organisation, here superseded by the guiding idea of "creative organisation of work and technology" in vocational training. In terms of educational theory and reform, it makes sense to refer to creative organisation in a generalised manner as an organising principle for "action heuristics". In turn, it corrects the conventional definition of education as involving purely intellectual culture by including in the definition a second element with a balancing function. However, action heuristics need the regulatory idea of creative organisation in order to relieve "learning by doing" of the risk of mere reproduction of reality. The creative organisation approach can achieve this because it reveals what is historical/genetic, in turn illustrating creative organisation.

In this manner the workplace dimension of the educational process can be assigned a goal to which educational models may be oriented. The higher the status given to the educative potential of workplace training in the educational side of the dual system, the more important it becomes. Such potential seems to be indispensable to a concept of integrated education which aims to exploit vocational training for the development of the type of competence needed in university studies.

At the same time it makes possible further development, in the vocational school context, vis-à-vis the educationally advanced concept of "competence to act". The principles of scientific orientation (of the vocational school) and propaedeutics (*Fachoberschule*, *Kollegschule* and *gymnasiale Oberstufe*) together with the guiding idea of criticism, applied as early as in the educational reform phase, lead directly to the

problem that the regulatory idea could present in action. The subjective scope of action cannot be scientifically defined without abandoning the term "action", which would then be reduced to merely following scientifically supported rules governing activity. Such competence expressing itself in subjective action would at best be "speciality" competence that would not cover the unavoidably intuitive aspects of action (expertise). The connection of technical competence with "human competence" must be fostered here. Furthermore, human competence must be given its own status. Personal independence - linked with solidarity - must appear as a central factor, and the ability and willingness to adopt a scientific as well as an aesthetic and expressive paradigm will gain in significance. It contributes decisively to attaining a horizon of goals meaningful in terms of a type of creative organisation that can be derived under criteria broader than those of goal-based rationality. In its transformation into creative competence, the concept of "competence to act" thus acquires enhanced educational potency by explicitly and discriminatingly accommodating the "what for" question of the learning individual.

As for the issue of implementing the concept of creative competence as founded in educational theory, the scientific monitoring team has access to previous and concurrent work by the ITB. The "phases of action-oriented instruction" have proven their worth in the corresponding structuring of the curriculum because they allow the "dimensions of an extended technical theory", which are oriented towards the creative organisation of work and technology, to be directly incorporated into teaching practice. Such dimensions, besides technology as the theory of the structure, functions and design of the technical world, are:

social action: the theory of technical subjects as the result of, and the means and precondition for, social action;

historical development: the theory of technical subjects as an expression of the historical process;

utility value: the theory of the materialised purposes and values (and usefulness) of technology;

ecology: the theory of technical subjects as an element of ecological cycles.

Evidently, by revealing the dimensions of the technical world, the model of creatively oriented instruction outlined here initially encompasses only the technologies, albeit in a clearly extended sense. Naturally, however, creatively oriented instruction should not be limited to occupational subjects in the narrow sense of the term. The scientific monitoring team promotes the development of analogous units for the conventional general-education subjects, whose curricula change as a result of the creatively-oriented instruction given in the context of a vocational orientation.

Developing the curriculum and designing means of testing it in a changed teaching environment requires criteria. These include practical feasibility, the realisation of the desired new definition of general education, the development of professional competence (through the creative approach), and learning success as experienced by the students.

Evaluating this aspect of the Projects' results depends on elaborating the approach in accordance with the maxim based on sociological experience, "methods are either adequate or inadequate for the subject of the investigation". The verification of learning success will be the test case for the future validity of this principle. The Combined Model Project must adhere to the standards of regular vocational training - otherwise its character as a fruitful innovation would be hard to demonstrate - but

it must also live up to the claim that it is superior to regular schooling and training in that it imparts competence enabling the trainees to achieve their goals in life. Verifying learning success conforming to the goals of the Project must encompass the role that the principles of active and creative orientation demand of the students, namely that they make themselves the subjects of their own learning process. The concept of classroom and workplace tasks, in turn, provides the basis for such verification.

Evaluation

The evaluation process in its narrow sense will be carried out primarily by analysing the developed materials in terms of project goals and the designated hypotheses of scientific monitoring and by means of participatory observation of instruction and structured interviews with the teachers. These interviews are problem-centred and consequently, as initially evaluative devices serving to record experience and document the project, their function is to mark the progress and course of the Combined Model Project for the teachers and trainers involved in it. The results of the evaluation are incorporated into proposals for revising the curriculum and implementing such revisions.

The scientific monitoring team will participate in advanced teacher training schemes. These schemes will be derived from a concept of advanced training in line with project goals, resulting from the innovative expectation of changing the regular system of vocational training, and are intended to make the relatively large teacher and trainer teams themselves experts on innovation. This is done using the concept of the permanent and independent evaluation and revision of the curricular material by the teachers themselves; it represents an approach to self-regulation and permanent advanced teacher training in autonomous organisational groups that can serve as a model for other educational reform projects.

Post-16 Strategies and the German Approach to Parity of Esteem

Rainer Bremer

Institute for Technology and Education
University of Bremen

The Reform and the Parity of Esteem

One of the most important characteristics of the German educational system is still the sharp distinction between general education and vocational training. The structure of the educational system requires the student to choose very early whether he or she wants vocational training or university education. From the point of view of educational theory, school types may be differentiated according to whether they guide their students towards general education or vocational training. In the ideal case the students attend a *Gymnasium* (similar to grammar school) if they intend to go to university later - they gain "education". If it is not the university that they want, they go to a *Hauptschule* or a *Realschule* (similar to secondary modern) in order to start vocational training within the dual system - those students gain some sort of "basic general education" (including one foreign language). *Hauptschule* and *Realschule* are meant to provide general education as well as preparation for vocational training. Although this overall structure remains unchanged, several "mixtures" have been established meanwhile by individual *Länder*. These mixtures make it possible to revise the educational programmes that usually lead to vocational training. The key word here is the "permeability" of the educational programmes offered in *Sekundarstufe II* (upper secondary school).

For more than ten years the number of students with *Abitur* (similar to GCE or the Matriculation Examination, i.e. giving access to university) has been increasing. Many of those students, however, do not actually go to university; instead they leave school and start vocational training. When today's German parents and students decide on what course of education to take, they make their choices in fundamentally changed conditions. These changes cut across the structure of the German educational system described above. The sociological explanation of this behaviour is very simple: the differentiation between education and vocational training is associated with access to higher positions, i.e. higher income. An *Abitur* and a university degree furthermore qualify a student for much more interesting and attractive jobs.

This development in the direction of more students with access to university has two contradictory sides:

The students determine the course of their education on the basis of the structure of the German educational system described above. This system demands a very early decision about whether the student wants vocational training or wishes to enter university. For this reason, *Gymnasium* seems a reasonable choice.

On the other hand, the rigidities of the German educational system are already compensated by several possible ways of gaining access to university through vocational training. *Gymnasium* with *Abitur* is still the quantitatively most important route to higher education, but it is by no means the only road to university or to vocational success. Seen from this point of view, the reasons behind an early decision on a *Gymnasium* education are not at all cogent, appearing much less sensible than when viewed against the structure of the educational system.

This hidden contradiction moulds the character of the current efforts to reform the system in terms of parity of esteem. Especially the fact that many young people aspire to *Abitur* without really wanting to go to university leads reformers to pay careful attention to the question of how the course of vocational education itself could be changed so as to fulfil the expectations held by the young, whether of education or of vocational training. Because of the perspective adopted in the Brandenburg pilot project, it cannot reach this goal by merely talking about parity of esteem. One starting point, for example, involves the qualifications that both educational routes offer, i.e. a recognized, formally highest educational degree, *Abitur*. On the other hand, this presupposes improved vocational training. A simple juridical equalisation of general education and vocational training would not be very credible and would not affect the students' tendency to opt for a *Gymnasium* education.

The Brandenburg reform project touches the cultural embedding of the structure of the educational system. The sharp distinction between education and occupation, between general education and vocational training is still in force there. The introduction of changes in this area requires among other things a new understanding of "education". This term and its exact definition together with the associated problems concerning its validity (implementation) form the core of the Brandenburg reform project.

The Brandenburg Model Project differs from other national reform projects in the concept of education that is its (theoretical) core. The other projects approach the question of parity of esteem in a more practical manner, for example by increasing the above-mentioned permeability between general education and vocational training. They include reform projects in Bavaria and North Rhine-Westphalia where the young people gain double qualifications, receiving a complete vocational training and acquiring access to *Fachhochschulen* (similar to technical college). In fact, these double qualifications are intended as a means of establishing additional possibilities to gain an adequate general education. Thus the separation between vocational training and general education remains untouched. These projects only devise new opportunities for switching from one educational route to the other. In this respect they add further mixtures to the structure of the German educational system while the system itself remains unchanged.

Bundesinstitut für Berufsbildung (Federal Institute for Vocational Training) follows a strategy that differs from the double qualification approach described above. They intend to create an independent route of vocational training leading to university entrance qualifications. It will be based on the existing system of on-the-job training (from skilled worker to foreman). These approaches to reform are intended to create an institution of vocational training independent of the system of general education. This new institution will be entitled to grant access to university and technical college (*Fachhochschule*). For the time being such intentions exist only on the political level, lacking any practical effects - as yet nobody has finished this route to university.

There is a third case of reform in progress, the political intentions of some German *Länder* of achieving parity of esteem through legislative measures to be

undertaken by the supreme German federal organ for educational questions, the *Kulturminister-Konferenz* (KMK), a ministerial committee consisting of the federal and state secretaries of state for education. KMK has final authority in all questions concerning public institutions of primary and secondary education. All German *Länder* are represented in KMK and have the same number of votes. It is in this ministerial committee that some *Länder* are campaigning for a decision that would grant *any* person with vocational qualifications and several years of practical experience in working life the right to study at a *Fachhochschule*, irrespective of the nature of his or her vocational training. From a juridical point of view this would in fact mean the establishment of parity of esteem.

The Brandenburg Project differs from these alternative reforms in several points:

The graduates obtain double qualifications as in Bavaria and North Rhine-Westphalia, but not by acquiring additional general education to complement their vocational training. The educational concept being tried out in Brandenburg aims at a *capability* to study at university that would be the outcome of *vocational* training.

For the time being the alternative of achieving the capability for university studies independently through vocational training still seems unrealistic. Nevertheless, the Brandenburg Model Project shares such an idea of a capability for university studies based only on vocational training. The idea of general education, however, should not be given up, as *Bundesinstitut für Berufsbildung* intends to do. The Brandenburg reform project tries to pay full attention to a justified concern for general education, i.e. the promotion of personality, within a modified type of vocational training.

One argument against a reform involving an attempt to use legislation to open *Fachhochschulen* to anybody with vocational qualifications lies in the chances these students would have when they began their college studies. Without improvements in the field of vocational training, global access to technical colleges would not lead to parity of esteem. The opposite is to be expected: students coming from schools belonging to the general education system would have many advantages over vocational school graduates. This would lead to two levels of study capability, thus confirming the traditional university route.

Our Brandenburg reform project starts with the assumption that parity of esteem is above all a question of the standard of vocational training. Consequently, in order to overcome the separation between general education and vocational training within the German educational system we must first improve vocational training.

Reform and the Labour Market Context

For the time being the Brandenburg Model Project aims at a future labour market for the graduates. At the beginning of the Project industrial jobs were still being cut in East Germany. The production lines of the former GDR were completely obsolete and no longer competitive. Despite all attempts at reconstruction many companies went bankrupt so that in fact the number of industrial jobs fell towards zero. On the other

hand, we may expect that as this slow process of modernizing and re-industrializing East Germany goes on, completely new, modern jobs will be created. For this reason current vocational training in East Germany must prepare for a future demand for skilled labour. Because of this, today's qualification of skilled workers has a certain connecting function. The provision of vocational training in the Brandenburg reform project must take into consideration the experiences gained of renewing industry and skilled labour elsewhere - in places where the process of modernisation is going on more continuously. This is an important aspect of what the reform is aiming at.

Planning vocational training is confronted with the problem of how to anticipate today what kind of qualifications will be needed tomorrow. One approach towards solving this problem involves making occupational qualifications as independent as possible of technical aspects which might be obsolete tomorrow. This makes both forward planning of vocational training and today's vocational training a very demanding business.

The system of vocational training must derive its subjects from permanently needed activities, i.e. the labour process, not from the tools needed in the work. Changes in the labour process, which are considerable in certain respects, mostly involve changes in the instruments of work, i.e. the discussion on the rapidly changing process of labour often ignores the fact that the tasks as such have remained the same (houses are still *built*). What is really changing are the tools, whose use forms a very important part of vocational training. If vocational training sticks closer to the operations rather than concentrating on the use of tools, coping with the changing (instruments of) work will be easier.

The modernisation of vocational training does not mean only a change in the focus of vocational training from tools to operations, made necessary because otherwise it will not be possible to handle the changing process of work. The quality of professional work itself speaks in favour of making the "mental", "personal" characteristics of the working person the focus of vocational training. Modern vocational training cannot include only the technical aspects of the labour process, it must also cover the context of this process (its organisation) at concrete workplaces. In doing so vocational training of this kind comes closer to the aims of traditional general education. Workers who develop their capabilities in a way that relates to the modification of their occupation as a whole have learned to learn. Such capabilities connect the tasks of occupational modernisation with the worker's person. It is the responsibility of the vocational training system to provide this capability, to develop the student as a person in accordance with his or her capabilities and potential.

The Brandenburg Model Project incorporates both aspects of vocational training, choosing modern working techniques as the subject of vocational training. This subject is, however, only exemplary. Learning working techniques also involves the actual task that the work is expected to fulfil. The graduates shall learn how to fulfil a task. Everything that they learn is linked with work carried out in authentic working conditions. That does not mean that they are required to obtain professional results; rather, it means that they shall complete their tasks with sincerity.

The reform project combines the efforts of vocational training with modern subjects and personal development. It is the requirements of professional work and the associated changes that make a methodical upgrading of traditional vocational training necessary. The main concern of the Brandenburg reform project is independent learning based on precise problem-solving demands. Up to now such independence was reserved for general education as preparation for university studies.

Reform and the Educational System

National differences are to be considered as an additional problem arising in comparisons of educational systems. As described in the first section of the paper, some characteristics of educational systems become blurred in Germany, so that we may not talk about *one* system. However, the deeper uniformity becomes obvious when we analyse the national reform projects. These projects reveal efforts to overcome the separation between general education and vocational training at least as far as its outcomes are concerned, i.e. education for working life on the one hand and for university on the other. There are two reform strategies used to achieve this result:

Curriculum revision and reform in the narrower sense. This strategy is based on the assumption that the subjects offered in general education and vocational training will be modernised, partly due to the fact that the general education provided at the *Gymnasiums* is beginning to include vocational subjects.

The modification of professional activities involved in general education and vocational training. This strategy presupposes complex changes reshaping general education and vocational training. The reform process includes not only the subjects taught but also the methods of teaching, so that the rigid structures separating general education and vocational training shall become more flexible.

The advantage of this second strategy is the fact that - unlike the revision or reform of the curriculum - it is not based on a top-down approach but on the participation of teachers from both general and vocational schools. As it is they who obtain the concrete results both in general education and vocational training, they must play an important role in the reform process. In the Brandenburg reform project it is the responsibility of the general subject and vocational teachers themselves to construct a new curriculum for their trainees or students. The researchers are there mainly to support this development work.

Besides addressing the question of how the actual reform project should be implemented, those in charge of the Brandenburg Model Project are already, while the Project is still in its pilot phase, trying to find additional parties interested in testing the model. Such parties are being sought by means of specific information and through participation in advanced training carried out on site. It remains to be seen how this endeavour will affect the school. The company has already started co-operation with other educational institutions.

Local Networking between Schools and between Schools and Working Life

On site the reform project is designed to test and prove the feasibility of double qualifications. Thus links outside the Project are maintained for information purposes only. Due to reasons discussed under the above theme, connections with the labour market are very poor, there being at present next to no modern industrial jobs in East Germany. Because of this, a demand for modern skilled work emerges mainly at the

instruction workshop and tertiary college of *Schwarze Pumpe*. For this purpose the participants have developed several "learning and working tasks".

Oberstufenzentrum Schwarze Pumpe has started cooperation with *Fachhochschule Lausitz* (Lausitz Technical College). The students visit the *Fachhochschule* to establish what kind of qualifications they need in order to study there. There is much closer co-operation with the institution responsible for the final vocational examination qualifying the students for the occupation they are studying for, *Industrie- und Handelskammer Cottbus*. Co-operation with the Cottbus Chamber of Industry and Commerce is of crucial importance to the reform project, because examinations are a major influence on teaching contents. We are still trying to reach an agreement on appropriate examination regulations that would correspond with the aims of the reform project (independent learning, key qualifications).

In the context of the German regulation system, both school principals and teachers' associations try to promote the teaching of key qualifications. These strategies are aimed at modifying traditional school subjects (which are modified themselves in the Brandenburg Model Project) in order to put "special emphasis on working activities". Lessons with special emphasis on working activities are being introduced mainly as a top-down measure involving the dissemination of information and the provision of advanced training. It is very difficult to evaluate the results of these efforts.

Teacher Education/Co-Operation and Reform

Given the scope of the Brandenburg reform project, it is not possible to modify the professional education of teachers. We must be content with giving the general subject and vocational teachers involved in the Project advanced training. The first step was explaining the aims of the reform. Teachers of general and vocational subjects should not merely dutifully carry out the experiment, they should be convinced that it makes sense. The next step was an orientation period; at this stage the participants established and discussed the overall significance of the reform aims. A question among others dealt with was how individual subjects such as German or Physics can be used to improve vocational training on one hand and how they can themselves be modified through new methods of teaching on the other. After this stage came the first trial teaching projects. General subject and vocational teachers should be given an opportunity to familiarize themselves with new concepts and methods. For this purpose they first had to develop their ideas within a new working context. Their task was to construct and run such projects jointly, to carry out their teaching projects on a co-operative basis and later on to evaluate them together. For many of the participants this meant of a kind of role reversal because both their students and their colleagues responded to the concepts that they presented. At the beginning it really was a difficult process, where all those taking part had to accept criticism. At this stage, the teachers of both general and vocational subjects gained a very new reform of understanding of their traditional roles. From the point of view of the theory and discipline of vocational training, this is more than merely desirable. The strong socializing impact of general education and vocational training also affects the teachers' understanding of their roles. This means that reforms can be effective at the level of teaching only if they strategically include this role perception in the process of change.

One of the most important ideas of the Brandenburg reform project is improving the co-operation between general and vocational subject teachers. After all, how could they credibly teach their students key qualifications like teamwork if they are not able to practise it themselves? At the moment this idea is being introduced into the system of advanced teacher training in the *Land* Brandenburg. As teamwork, however, cannot be learnt as a subject in itself, a project was needed that the participants could work out together. The project chosen was the preparation of a new curriculum for double qualification based on a focus on practical working activities.

Reform and Qualifications, Flexibility of Student Programmes and Curriculum Development

With their double qualifications the graduates of the Brandenburg Model Project receive two adequate options for their future. Their modern education should enable them to adapt to the changed demands of the labour market. Their education does not consist only of the contents of the curriculum but also includes key qualifications such as independent learning. For this reason we are convinced that our graduates can be employed flexibly on the labour market and that they will be able to make use of future opportunities to advance in their respective occupations. In this context we would like to draw attention to a special feature of German vocational training: in Germany vocational students are always trained for one of approximately 360 vocations and thus graduates are not really very well prepared to respond flexibly to labour market requirements (note the difference between job and vocation/occupation). On the other hand, each vocation includes a considerable proportion of general studies, i.e. studies which do very well support vocational mobility and flexibility. The Brandenburg reform project tries to amplify this kind of fostering of flexibility without giving up the vocational orientation of learning.

Besides a higher degree of vocational flexibility, these general studies will also lead to capability for university studies. Two examples from the technical level of the curriculum should make clear what this means:

In Mathematics the students' understanding of vocational general facts is improved by means of the curriculum. According to the traditional view, Mathematics belongs to general education, whereas in vocational training it is only the more practical applications of Mathematics that matter. That is, it is thought that vocational qualifications need not include any specific knowledge of Mathematics. Given the aims of the Brandenburg reform project, however, Mathematics is taught as an independent subject so that the students learn to understand the formulas which traditional vocational training only requires them to apply. They shall become capable of *mathematicizing* technical and scientific facts on their own.

All teaching projects are worked out independently in several student groups while the results are left open. The students must prove and present their solutions using documents and technical arguments. In this context the ability to use language is a very important point. Usually this skill is only practised in German

classes. Due to the design of vocationally oriented teaching contents, this subject, too, is integrated into the vocational aspects of the students' education.

These examples illustrate how general education and vocational training are integrated on the basis of the curriculum. The success of these projects depends not only on improved curricula but especially on teaching methods.

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The Norwegian upper secondary education reform in 1994, *Reform -94*, has been nationwide and centrally controlled. Especially its vocational aspect has appealed to Norwegian social partners. The reform has been characterized as involving (1) the introduction of an equal statutory right to education, (2) a restructuring of the Norwegian upper secondary school, and (3) a review of the learning contents of upper secondary education. It has meant extending the period of comprehensive education to also cover upper secondary education and include almost all Norwegian youth.

Since the reform, academic/general education and part of vocational education is delivered under one roof by the combined upper secondary schools. In terms of administration, learning contents, organization and attractiveness, the extension of the period of school-based education and the establishment of a uniform system of upper secondary education has had a more profound effect on vocational than on academic/general education. The main goal of the Norwegian reform has been the provision of young people between the ages of 16 and 19 with equal access to educational opportunities. Behind this aspiration is both a wish to bridge the wide social gap that previously existed between general and vocational education and a more pragmatic realization that a country with a declining birth rate must make the most of all potential talent present in its population if it is to meet the challenge of rapid social, economic, organizational and technological change, knowledge explosion and the rapid emergence of the knowledge-based and increasingly global society of the future.

In vocational education the structure of study programmes, consisting of Foundation and Advanced Courses, together with increased optionality, resulted in prolonged study times and horizontally overlapping studies. Structural modifications have produced a range of 13 different Foundation Courses, of which 3 lead to university entrance qualifications and 10 to vocational certificates.

The general objectives of *Reform -94* concerning vocational education were threefold: (1) the provision of a broader education, (2) coordination between school on the one hand and business and industry on the other and (3) making higher education accessible from vocational training. Another dramatic change that has taken place in vocational education in Norway is the increasing number of academic/general subjects. At the same time, one of the problems that *Reform -94* has encountered so far is making such new theoretical subjects accessible to vocational students. A vocational programme called the "2+ model" links school-based and in-company education.

Today all upper secondary education in Norway leads to either vocational or university entrance qualifications. It is being debated whether the academic/general and vocational sectors of education have really been integrated and whether they are now equally popular among young people and their parents. There is an assumption that vocational education and vocational qualifications will indeed become more attractive after the reform.

The structural and curricular reforms of Norwegian upper secondary education are currently being complemented by the construction and testing out of an integrated model of teacher education.

Norwegian Upper Secondary Reforms in Academic/General and Vocational Education in the 1990s

Kjell Andersen
Agder College, Kristiansand

Background

Introduction

In this report a short summary will first be given of selected main features in the development of the academic/general and vocational aspects of post-16 education and training in Norway. The report will then focus on the background for the recent major national reforms of education of this type, and finally give an account of the structure and organisation of upper secondary education in Norway today.

The most recent national reform of Norwegian upper secondary education, *Reform -94*, was set in motion as students started upper secondary school in the autumn of 1994. It was a centrally controlled reform carried out in each and every upper secondary school in the country. The students who began their upper secondary school in the autumn of 1994 have now, therefore, been attending the new institutions of upper secondary education for one and a half years.

Reform -94 has been so intense that it has overshadowed all other experiments and development projects in Norwegian schools during this period. It is generally thought that no previous reform of Norwegian upper secondary schools have aroused such wide interest outside educational circles. As the report will illustrate, it is especially the vocational education sector of the upper secondary school that has been the focal point of attention and debate.

It is therefore quite natural that this report on post-16 education in Norway concentrates on the background of this particular reform and the specific organisation of the upper secondary school that resulted in such marked consequences. It is in the context of the new upper secondary school established in Norway that the Post-16 Strategies Project is of great significance.

The Principle of the Uniform or Comprehensive School in Norwegian Educational Development

The term uniform or comprehensive school (*enhetskole*) describes a school system where children and young people attend the same type of school as long as it is feasible in the system rather than pupils within the same age range going to different types of school. Originally the term also indicated that all children were to have the same kind of instruction.

In 1945 the compulsory comprehensive school lasted seven years, but in the 1960s it was extended to nine years. By that time the meaning of the term had become

more restricted; it no longer meant that all pupils were to be taught the same things but merely that the children were to attend the same school until the ninth year of their education. After *Reform -94* the concept of the comprehensive school has been extended even further and now the idea also covers the upper secondary school.

In practice this means that all the pupils from the same district attend the same school from the beginning of their schooling up to and including the upper secondary school regardless of which type of education they select in the upper secondary school. As a result of the Reform, all upper secondary schools are to be combined upper secondaries, so that academic/general education and part of vocational training will take place under the same roof.

Generally speaking, school development in Norway is characteristic of the Social Democratic government that has dominated the political life of the country since 1945. It is the basic Social Democratic concepts and ideas that have become the marked features of Norwegian schools.

The Development of Academic/General and Vocational Education in Norway

The structure of the academic education provided in upper secondary schools is a direct continuation of a system going back a long way, traditionally aimed at qualifying young people for university entrance. The function of the academic/general upper secondary school was to sort out those who were likely to complete their academic studies. The content of academic upper secondary education has changed over the course of time, i.e. classical studies have been replaced by modern languages, science and social studies, but its organisation and structure as such has not been altered to any great extent.

Quite the same cannot be said about vocational training in Norway. Formerly, in the years immediately following the Second World War, a number of different types of schools offered vocational training. These institutions were known as technical schools, but they could be very different from each other as regards the length of their courses and the type and level of their teaching: they offered instruction in business, trade and industry, they were either privately or publicly run, they were organised and managed in a variety of ways and they might come under the jurisdiction of any one of a number of government departments. The whole system of technical training was just as manifold as society itself.

The structures of general and vocational education were kept apart. The schools were situated in different places and had no organisational links and there was a wide social gap between the two cultures that they represented.

As mentioned, the development of post-16 education in Norway in recent years has not led to any great changes in the structure of academic/general education. On the other hand, the changes that have taken place in vocational education have been considerable. The development of the principle of the uniform or comprehensive school that led to the establishment of a coherent and uniform system of upper secondary education had a more profound effect on the administration, content and organization of vocational education.

Post-war educational expansion was to a great extent guided by the ideas of equalisation. Since the years immediately after the war and up until today, Norwegian authorities have motivated expansion in education with a desire to give different social groups uniform educational opportunities. During the post-war period the political parties have been concerned, amongst other things, with improving the standard of technical education so that students with practical abilities were given the same educational opportunities as students with academic abilities.

As regards the question of unequal status and prestige in education, it has not been a prominent theme in educational debates and discussions in Norway. In the early post-war years academic/general education was favoured by the authorities. Education of this type enjoys the highest status and greatest public esteem.

In a number of vocations where training was given it was often short-term. There was a lack of course programmes and text-books, and technical school teachers were generally speaking inadequately trained. It was only in the 1970s and 1980s that it became politically important in educational circles to create equality between the theoretical and practical systems. This programme has now been implemented through *Reform -94* and it would seem that the restructuring of Norwegian upper secondary education has made the achievement of equality possible.

The Organisation of the Upper Secondary School in Norway at the Beginning of the 1990s

Characteristics

In the 1980s, the Norwegian upper secondary school featured the following characteristics:

- It was to cater for young people between the ages of 16 and 19;

- It was to be voluntary¹;

- There were ten parallel course programmes;

- The course programmes consisted of Foundation (F.C.) and Advanced Courses (A.C.);

- Foundation Courses lasted one year, the two Advanced Courses (A.C. I and A.C. II) one year each.

The main structure of Norwegian upper secondary education in the 1980s and at the beginning of the 1990s is presented in Figure II-8.

¹ The term "voluntary" was somewhat illusory as young people really had no other choice; unemployment was the only alternative.

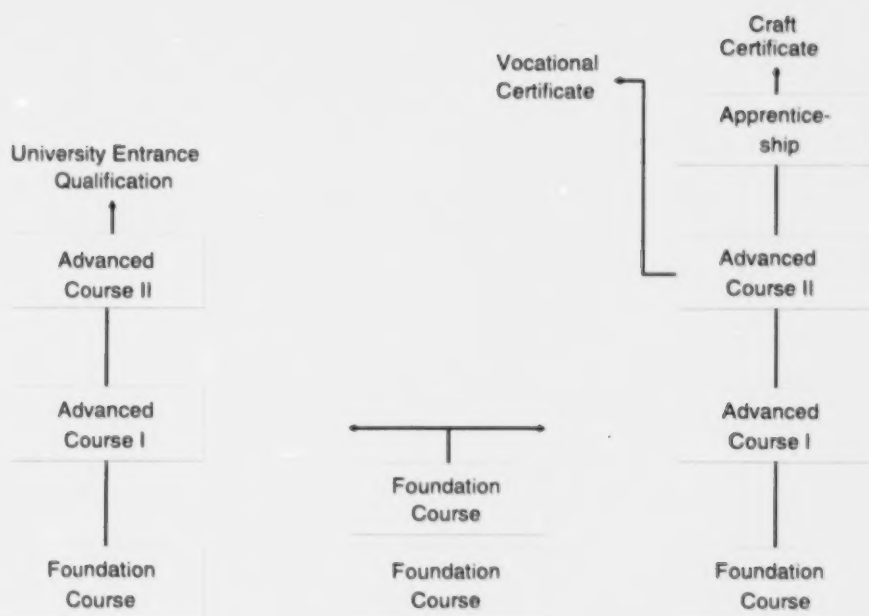


Figure II-8. *The Course Structure of Upper Secondary Education in Norway in the 1980s*

Organisation and Structure

The organisation of the upper secondary school can be presented in the following way. There are academic/general and vocational course programmes. In the upper secondary school course programmes consist of the one-year Foundation Course followed by Advanced Courses I and II (A.C. I and A.C. II) which take one year each. Within each course programme there were several optional Foundation and Advanced Courses. As time went on, more than hundred optional foundation courses were established.

In 1989/90 Norwegian upper secondary schools offered ten course programmes which catered for the following percentages of the students:

Table II-13.

Ten Programmes Offered in Norwegian Upper Secondary Schools in 1989-90

Course programme	Enrolment (%)
General Studies	43.1%
Craft and Industry Studies	23.6%
Business Studies	18.3%
Health Care and Social Service Studies	4.8%
Hotel and Food-Processing Trades	4.5%
Arts, Crafts and Design Studies	2.5%
Agriculture	2.1%
Merchant Marine	0.8%
Sports and Physical Education	0.8%
Fisheries	0.4%

The main structure of upper secondary education was based on:

the inclusion of general subjects as a continuation of the academic tradition giving university entrance qualifications;

vocational training not linked to apprenticeship² and including health care and social service vocations with certificates awarded;

training leading to full vocational qualifications through apprenticeship, a combination of a school-based programme and work placement. Such training is first and foremost linked to Craft and Industry Studies.

Gradually as the school programmes developed there was a noticeable increase in the number of Foundation Courses offered as a part of the vocational programmes, and by the beginning of the 1990s there were over a hundred Foundation Courses all in all. The problem was that there was no equivalent increase in the number of Advanced Courses. This led to a situation where the Advanced Courses did not have the capacity to cope with all the students coming from the Foundation Courses. As a result, many students had no option but to take another Foundation Course that might be of interest, or they could move into the ranks of the unemployed. A considerable number of the students moved horizontally across the school system and never completed their vocational training.

There were no such problems on the academic/general course programmes which led to university entrance qualifications. Here the students who applied for a Foundation Course could reckon on being offered a place on Advanced Courses and gaining university entrance qualifications within the normal period of time.

² "Apprenticeship" implies that the student signs a contract with an authorised company to complete his or her practical-theoretical training in an enterprise. The theoretical part of the training can be taken at the upper secondary school parallel with in-company training or studied full-time on a Foundation Course and Advanced Course before in-company training begins.

How Did Upper Secondary Education Function?

In order to give a full picture of the situation we can look in detail at the three-year school programme. We will illustrate how the structure functioned in terms of the aim of the maximum number of students gaining university entrance qualifications or full vocational qualifications. The following figures illustrate the average course process for 1988-90:

95 per cent of sixteen-year-olds applied for Foundation Courses and 84 per cent were accepted.

0.3 per cent signed apprenticeship contracts.

It is well worth noting the relationship between the numbers of students for the year on Advanced Course I in comparison to those attending the Foundation Courses. For example, on the Craft and Industry programme there was a reduction from 20 per cent attending the Foundation Course to just 11 per cent taking the Advanced Course. All in all 11 per cent of the students did not progress further in the system and had to take a new Foundation Course - comprising a total of 7,000 students. In 1990 the situation, concerning the age group who started the upper secondary education in 1988, was as follows:

23 per cent were not enrolled in upper secondary schools;

Just 47 per cent attended Advanced Courses II;

4 per cent had signed apprenticeship contracts;

The remainder, or 26 per cent, were wandering around in the system on their first or second or even third Foundation Course, or their first or second Advanced Course.

It was shown that after three years at school, 39 per cent of the students were awarded university entrance qualifications while 4 per cent were progressing towards a craft certificate.

Tracing the main features of this group's progress through their three years of upper secondary education we can observe the following:

Specialisation, particularly at the foundation level, had gone too far;

The options were too numerous and confusing;

Many upper secondary courses did not give a three-year education;

There were far fewer student places on Advanced Courses I and II than on the Foundation Courses;

Many students spent more than three years at the upper secondary schools - progress from one level to the next was too poor;

There were too few placements for apprentices and insufficient opportunities to complete vocational training;

There was considerable disparity between the numbers of students attending Foundation and Advanced Courses respectively in vocational programmes, especially in Craft and Industry programmes;

Many students wandered horizontally in the system.

After this consideration of how, at the beginning of the 1990s, the Norwegian upper secondary school functioned in terms of the aim of the maximum number of students gaining university entrance qualifications or vocational competence, it must be pointed out that the system had its weaknesses. It became more and more evident both inside and outside the school that comprehensive reform measures were necessary if the aims of the educational policy, agreed on by all parties, were to be achieved.

The Government White Paper NOU 1991:4 "The academic way to university and vocational educational entrance" (p. 32), states:

"We have today a system of upper secondary education that is a good starting point for meeting the challenges of the 1990s. This fact has been underlined by the report of the OECD experts on further education. However, the upper secondary school system is not equipped to meet future challenges. A comprehensive revision of the system is required. A modern upper secondary education for the whole age group after the year 2000 is to be created. For this purpose merely adjusting the present system will not be enough."

Description of Reform -94

Challenges, Principles and Main Aims

The reasons behind the Reform -94 were naturally enough the weaknesses of the upper secondary school as it was at the beginning of the 1990s. We have previously indicated some of these weaknesses, but in addition to the desire to correct them there were new aspirations towards and points of view on a higher-class upper secondary school and better-quality training. Some of the reasons were based on what was envisaged of society towards the year 2000.

From the Government White Paper NOU 1991:4 (p. 40):

"The threat confronting Norwegian educational policy is that the country fails to translate the potential talent present in the population into adequate competence. The outcomes do not reach the level of the potential talent. It is not merely a question of boosting the achievements of those with higher educational qualifications but of improving everyone's abilities"

The Knowledge-Based Society of the 1990s. It has been pointed out that we are moving at an ever-increasing tempo towards a society based on knowledge. Both in the generation of new knowledge and in the process of acquiring already existing knowledge as quickly and as effectively as possible mankind plays a cardinal role. Human resources become more and more significant and the population's knowledge level becomes a decisive input factor in the development. In future, limited access to knowledge will hardly hinder development, but the competitive factor will depend on the ability of making quick use of knowledge and organising its use effectively. We will be meeting increasing demands for adaptability as regards both enterprises, official bodies and the individual. To be able to maintain and strengthen its competitive ability Norway must have an educational system that produces adequately motivated and qualified manpower at every level. Increasing international trade and contacts will lead to escalating demands for linguistic and cultural understanding. Participation in international fellowship will gradually involve a greater part of working lives. In order to turn the combined resources of the population into the maximum possible competence we must develop our educational system so as to secure an increased equality of opportunities to all parts of the country.

The Commercial Society of the 1990s. Cooperation across national frontiers will be of more immediate importance. This means that much more attention must be paid

to foreign languages and to understanding other cultures. It is imperative to have a national upper secondary school that helps its students to attain new knowledge and that also has special knowledge or competence within its field. Economic life will be more and more based on knowledge and ever-increasing demands will be made on the workforce. In this particular situation universal education is a most important part of the social security network.

The Adaptability of the Society of the 1990s. Here it must be pointed out that we are entering a period where we meet demographic challenges due to a decline in the birth rate. At the same time the explosion of knowledge increases the demand for a well-educated workforce. For the country as a whole it is most important that we look after the diminishing numbers making up each successive age group, and that as many as possible are allowed to acquire further education. During the next decades, economic life will undergo changes. New technology and new forms of organisation will create new professions and change the content of the old ones. Such a development will create a need for the continual renewal and updating of knowledge, and the educational system must be fully prepared to cope with a new manifold competence, the ability to take the necessary responsibility for oneself and one's society. The whole age group must therefore be offered an opportunity to enter further education. We must aim at a balanced development of vocational and general competence. Economic life will need a workforce that has solid basic knowledge to last for a whole working career.

The Main Challenges. We may note the following main challenges confronting the upper secondary school:

- getting the most out of available population resources;
- maintaining a broad basis of knowledge and developing an educational practice suitable for the age group;
- finding an appropriate balance between general knowledge and specialisation;
- defining clearly the basic knowledge and skills that are to form the basis for specialisation and further training;
- establishing closer links between economic and every-day life on the one hand and further education on the other;
- developing international responsibility and ecological understanding and linking knowledge of international affairs with insight into and respect for particular cultures and traditions;
- avoiding class differences and attaining the best possible education within the framework of available resources;
- maintaining a broad field of development with local comprehensive further education.

General Principles of Educational Policy. In planning and implementing *Reform -94* the following general principles have been maintained:

- equal statutory right to education;
- a national basis for knowledge, values and culture;
- knowledge of high quality, durability and relevance;
- opportunity for local adaption;

a greater degree of control over aims;
good educational and administrative continuity within the system.

Main Aims. The main aims of the Reform are:

to give young people the right to further education;
to give young people the opportunity to attain formal qualifications either for a vocation or for university studies;
to provide for students and trainees in their own locality;
to give advanced vocational training at school combined with final training in work placement;
to offer adult people suitable opportunities for further education;
to organise the content of further education so that it will qualify students for the economic and everyday life of the future.

Upper Secondary Education in Norway after the Introduction of Reform -94

Introduction

All young people between 16 and 19 years of age who have completed the nine-year primary and lower secondary school or equivalent have a statutory right to a three-year, full-time upper secondary education. This education shall provide the pupils with either university entrance qualifications, vocational competence, documented partial competence, or the completion of some other upper secondary course. Pupils and trainees who wish to gain entrance to the university may take additional courses after they have completed their technical or vocational training.

The local authorities ensure this by:

arranging for enough places in the various schools;
establishing a follow-up service for young people who have the right to education, but are neither in education nor in employment.

There are thirteen different Foundation Courses. This is a reduction from more than one hundred such courses. Specialisation takes place in Advanced Courses I and II and/or in in-company training. (See Figure II-9).

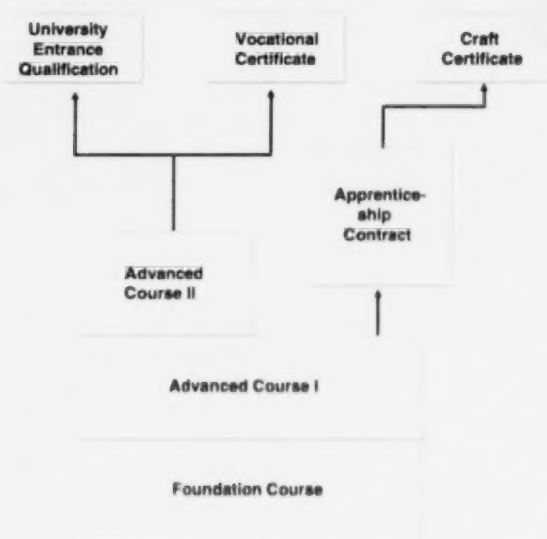


Figure II-9. *The Course Structure of Upper Secondary Education after the Reform -94 in Norway*

The Upper Secondary Education Act, which regulates school-based education, and the Act Concerning Vocational Training, which regulates apprenticeship training, have been revised and harmonised with a view to achieving a more uniform education and better coordination between school-based and work-based education.

Background

The previous major change in Norwegian upper secondary education occurred in 1976. Vocational training at the workplace was reorganized in 1980. Considerable developments have taken place in our society since then.

Reform -94 was a response to changes in society generally and within the educational sector in particular. The Reform helped to map out the course of a comprehensive educational policy for the start of the next century.

The last 15-20 years have seen a marked increase in capacity within the educational sector. Many more people receive education today than previously. Compulsory nine-year primary and lower secondary education has been established throughout the country, and an increasing number of young people receive upper secondary education. In 1977-78 the number of upper secondary school pupils was a little more than 135,000. This figure rose to approximately 255,000 in the school year 1991-92.

General Objectives

All young people are given the opportunity to receive an education and training leading to university entrance, vocational qualifications, documented partial competence, or the completion of some other recognized upper secondary course. This will be achieved through the following means among others:

Providing places for increased numbers of pupils;

The educational structure will be reorganized to facilitate progress from one stage to the next and to exploit resources more efficiently;

The Reform is designed to provide a broader education, especially at the Foundation Course level;

Coordination between school on the one hand and business and industry on the other will be improved;

Opportunities for entering higher education from vocational training and technical training will be improved.

The Right to Upper Secondary Education

Reform -94 gives young people between 16 and 19 years of age who have completed a nine years' primary and lower secondary education or the equivalent a statutory right to a three-year upper secondary education. It is the responsibility of the local authorities to provide a sufficient number of school places to guarantee this right. The right covers three years' full-time upper secondary education leading to university entrance qualifications, a craft certificate, or other vocational qualifications.

This right is based on the completion of primary and lower secondary education, and students must make use of the right not later than one year after they complete their lower secondary education.

Handicapped pupils may be granted the right to more than three years' education. When basic education at school is combined with the completion of vocational training at a place of work, the training may last up to four years, in-company training being supplemented with two years of productive work.

In addition to providing places for young people with a statutory right to education, the local authorities must also ensure that the young without this statutory right are also given an opportunity to obtain education. Furthermore the local authorities must ensure that adults aged 20 years or more, too, have an opportunity to gain upper secondary education. All young people from 16 to 19 years of age have the right to be admitted to one of three Foundation Courses chosen by themselves.

The Structure of Secondary Education

Reform -94 is designed for a rapidly changing society. Emphasis has therefore been placed on developing broad competence, flexibility and a good foundation for advanced training. Moreover, the structure helps to maintain a decentralized educational and training system.

The most drastic changes have been made within vocational and technical training. As is the case elsewhere in our society, the range of skills and knowledge required by business and industry is constantly changing. This is reflected in the labour market, and the ensuing demand for broad competence and flexibility is central to vocational and technical training.

The diagrams presented in Figures II-9 and II-10 illustrate the new structure of upper secondary education in Norway after the Reform. 13 different Foundation Courses are available:

General and Business Studies;

Music, Dance and Drama;

Sports and Physical Education;

Health Care and Social Service Studies;
Arts, Crafts and Design Studies;
Agriculture, Fishing and Forestry;
Hotel and Food-Processing Trades;
Building and Construction Trades;
Technical Building Trades;
Electrical Trades;
Engineering and Mechanical Trades;
Chemical and Processing Trades;
Woodworking Trades.

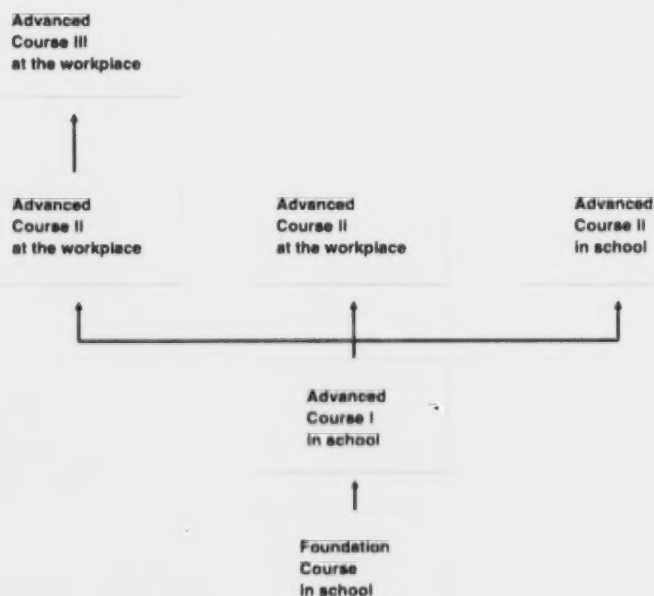


Figure II-10. *The Structure of Studies Leading to a Craft or a Vocational Certificate after Reform -94*

Specialisation within the various subject areas will take place at the level of Advanced Courses I and II. In subjects covered by the Act Concerning Vocational Training, final specialisation will take place primarily in business and industry. As a general rule, admission to Advanced Course I within an area of study is based on attending and passing the relevant Foundation Course.

One of the most dramatic changes to take place in vocational education after the Reform is the increasing number of academic/general subjects incorporated into the Foundation Courses of the vocational programmes. In the first year of upper secondary year the students will use approximately 26 per cent of their school time on general subjects.

Vocational Training at School and in Business and Industry

Under the main model for vocational training, i.e. the trades covered by the Act Concerning Vocational Training, students first attend school for two years (Foundation Course and Advanced Course I) and then complete their studies (Foundation Course II) in in-company training. This is called the "2+" model. After the first two years, they can select between alternative programmes for in-company training:

one year of training, or

two years of training combined with productive work.

The training establishment receives a government grant for their vocational training section.

The employers' and the employees' organisations make an active contribution by

estimating how many skilled workers are needed in the various sectors;

securing the requisite number of apprenticeship places.

If a sufficient number of apprenticeship places cannot be secured, the provincial authorities must offer the trainees the opportunity of completing the training at school. Both those who take their final training at a training establishment and those who complete their vocational training at school take the same craft or journeyman's test and receive a craft certificate when they have passed the test.

Follow-Up Service

The provincial authorities are under a legal obligation to establish a follow-up service for young people who have a statutory right to education, but who are not in training or employed, including those who have dropped out. The object of the follow-up is to provide the young people in question with opportunities that will lead to formal competence.

Qualifications

All upper secondary education will lead to full qualifications, either vocational or university qualifications.

Craft Certificate and Other Vocational Qualifications. Young people seeking craft or vocational qualifications will be given the opportunity to achieve this through school-based and/or workplace training. Craft certificates indicate competence in apprenticeship trades and are issued to those who have fulfilled the prescribed requirements.

Apprentices and pupils who have received training in subjects governed by the Act Concerning Vocational Training may take a craft test. The training takes place at a school and/or a workplace. In vocational subjects not governed by the Act Concerning Vocational Training, education is provided at school. The level achieved is shown by a certificate issued by the school authorities when the student has passed the final examination.

Qualifying for Higher Education. The qualifications needed for higher education consist of two components: Completing three years of upper secondary education, irrespective of area of study; and the following subjects: Norwegian, English, Social Studies, Modern History, Mathematics and Natural Science. There are three ways to obtain the qualifications for higher education:

1. Completing three years' upper secondary education in the following areas of study:
 - General and Business Studies;
 - Music, Dance and Drama;
 - Sports and Physical Education;
 - Management of Natural Resources (Advanced Course II);
 - Drawing, Design and Colour (Advanced Course II).
2. Choosing a special Advanced Course II on general subjects after two years of vocational training, the Advanced Course II General Subjects Supplement including the following general subjects: Norwegian, Mathematics, Natural Science, English and Modern History. In addition to these subjects, the pupil chooses other subjects from the General and Business Area.
3. Persons who have finished their training in a trade and acquired a craft certificate or other vocational qualifications can complement their education by additionally taking general subjects such as Norwegian, Mathematics, Natural Science, English and Modern History if not included in their vocational area of study.

Reform -94 and the Parity of Esteem for Initial Vocational Education

When we consider the development of upper secondary education in Norway there is little doubt that its academic/general and vocational sections have come closer to each other, and that there is now a better chance that initial vocational education may be able to come closer to a parity of esteem and popularity with academic/general education. It is anticipated that the popularity and attractiveness of vocational education and vocational qualifications will increase after the Reform. However, the following features may be essential preconditions of this expected increase in popularity:

organising the upper secondary school as a comprehensive school, incorporating all types of upper secondary education;

including in vocational Foundation Courses significantly more academic/general subjects than previously;

giving students who have chosen vocational education the chance to achieve university entrance qualifications by taking extra subjects in the general studies area after the first two years of studies, or even after they have achieved a craft certificate. No such opportunities exist the other way;

providing better opportunities for entering higher education from vocational and technical training.

Our interest in this case is to see whether or not the possibilities built into the new model for upper secondary education pointed out above will be exploited by the students. The following problems have been encountered so far:

1. Many students attending foundation courses in vocational education have problems with the demands of the theoretical subjects, and many of them have problems with the tests and exams.
2. There have been problems about finding enough apprenticeship places.
3. The question of how the students were to be evaluated was not given sufficient thought.
4. There has been much frustration among upper secondary school teachers. They assert, for instance, that the reform was carried out too fast, that the teachers had not been properly prepared for it, and that in many subjects no syllabuses had been provided.

In order to ensure that *Reform -94* achieves its objectives the Ministry of Education has initiated a longitudinal evaluation of the Reform during a five-year follow-up period. It remains to be seen what the evaluation will show. Already at this time there seem to be problems in some areas. Among others may be mentioned the trouble that many students have with the academic/ general subjects in the vocational Foundation Courses. The theoretical level seems to be too high for many students, and there are difficulties about securing the requisite number of apprenticeship places, an issue crucial to the outcome of the Reform.

Issues Related to the National Reform -94 in the Norwegian Upper Secondary School

Kjell Andersen
Agder College, Kristiansand

Reform and Parity of Esteem

The reorganization of upper secondary education in Norway, *Reform -94*, is a reform that includes all upper secondary schools in the country. This means that the reform has an impact on 700 schools, 210,000 students and 23,700 full-time teachers.

The reform has been characterized as:

A reform introducing an equal statutory right;

A structural reform; and

A reform of learning contents.

The reform has, among others, the following general objectives:

providing places for increased numbers of students;

reorganizing the educational structure to facilitate progress from one stage to the next within the system;

providing a broader education, especially at the Foundation Course level;

improving coordination between school on the one hand and business and industry on the other.

After the reform the upper secondary school is organized into Foundation Courses and two levels of Advanced Courses, I and II. There are 13 broad Foundation Courses, of which 3 lead to university entrance qualifications while the other 10 lead to a vocational certificate.

There is reason to believe that this change in the structure of the upper secondary school, the introduction of the new equal statutory right to education and the reformed learning contents will have a positive impact on the parity of esteem of vocational education.

The fact that all students are brought together in one comprehensive upper secondary school where they acquire their education under the same roof, no matter what courses they attend, that theoretical subjects have been given more weight on vocational courses, and that the same teachers will be teaching across the boundaries of the different courses represents a rather dramatic change as compared to the upper secondary school that we had in Norway a few years ago, giving occasion to hope for a change in previously held views on vocational education and training.

In addition, in the new school system the students have the opportunity of gaining both a vocational certificate and university entrance qualifications in four years. Quite a few educators in Norway believe that this is likely to have a positive influence in the same direction.

At present, the students who started with the Reform in the Autumn of -94 are in the middle of their three years of upper secondary education. Later this year we will do a study of the implementation of *Reform -94* in one advanced comprehensive pilot school, where some of the teachers are linked with the combined teacher education project that we are going to organize at our college. The report on that study will be brought to the Post-16 Strategies Project.

Reform -94 and the Labour Market Context

The main model for vocational training in Norway, i.e. preparation for the trades covered by the Act Concerning Vocational Training, consists of two years of school-based training (*Foundation Course* and *Advanced Course I*) followed by final training (*Advanced Course II*) in business and industry in the form of apprenticeship. This is called the "2+" model. Those who have completed their first two years of upper secondary education have alternative programmes for their final training in the working community:

a) one year of training; or

b) two years of training combined with productive work.

The training establishment receives a government grant for its vocational training section. Both the employees' and the employers' organizations take an active part in the work of:

estimating how many skilled workers are needed in the various areas;

securing the requisite number of apprenticeship places.

If a sufficient number of apprenticeship places cannot be arranged, the provincial authorities must offer the trainees the opportunity of completing their training at school.

Both those who receive their final training at a training establishment and those who complete their vocational training at school take the same craft test or vocational exam and receive the same craft certificate when they have passed the test.

The first students taking part in the ongoing reform will finish their Advanced Course I in the Spring of 1996, and will attend Advanced Course II in the Autumn of the same year. Then we will have the first test on whether or not the labour market is able to cope with the number of apprentices who will need a place in working life to complete their vocational education.

In 1993 the total number of apprenticeships was 20,000, (Central Bureau of Statics and Ministry of Education, Research and Church Affairs). There is reason to believe that this number will increase in 1996.

The Norwegian Post-Graduate School of Education, Agder College, will conduct a local follow-up study of this phase of the Reform during the Autumn of 1996. The report will be part of our contribution to the Post-16 Strategies Project.

Efforts have been made to prepare skilled workers in business and industry to take care of the training of the apprentices who will arrive in the Autumn of 1996, and course programmes have been developed for this purpose.

Reform and the Educational System

Upper secondary education has been made available in all parts of Norway to ensure that all young people will have the same educational and training opportunities at this level. Theoretical education and practical training are given equal weight and status. The year 1994 saw the beginning of great changes in Norwegian upper secondary education. The reform covers all secondary schools in the country and is intended to reflect the changes that have taken place in Norwegian society and in the country's educational sector since the last reform in 1976. One of the main aims of the reform is to create a flexible system that will deliver a general education and a wide range of skills and prepare the pupils for a society in constant change.

Reform and Local Networking

The combined teacher education project that is going to start in August 1996 is founded on the condition that the supervised school practice that is a compulsory part of teacher training will take place at a pilot school located in the same municipality as Agder College. The school is a combined upper secondary school and our researchers, who will be in charge of the combined teacher training project, will work closely with the school staff, particularly with two of the administrators and, through them, with the supervisors. The plan is that one of the administrators will be given the opportunity to participate in one of the project meetings.

Reform and Teacher Education

Up till now there has been no linkage between the reform of the upper secondary school and the education of its teachers. Norwegian teacher education has the same structure and curriculum as before. As of 1994, the studies have been extended to take one year, but their content and organisation remain much the same.

The Ministry of Education, Research and Church Affairs has organized national groups to work out plans for a new curriculum and a new organisation of teacher education, and it has been promised that the work will be finished in the Autumn of 1996. The main aim of these reforms is the creation of a teacher education that is better adapted to the upper secondary school that we will have in the years to come.

Our combined teacher education experiment at Agder College seems to be a little ahead of the new national framework and curriculum that is to come. The model of experiment is presented in Figure II-11.

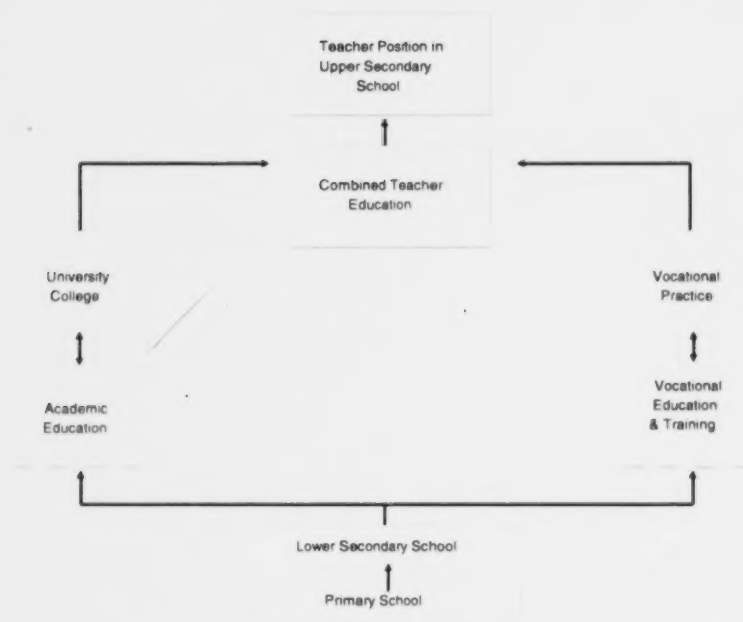


Figure II-11. *Combining Vocational and Academic Teacher Education*

Our aim is to give both students with an academic background and students with a vocational background a common education and preparation for the new secondary school in which they are going to work together. We are convinced that such an organization of teacher education must be one of the corollaries of the coming national reforms of teacher education. Hence this head-start.

Reform and Qualifications, Flexibility of Student Programmes and Curriculum Development

Qualifications

The reform of the Norwegian upper secondary education creates an education that provides pupils with either university entrance qualifications, vocational qualifications, documented vocational competence, or the completion of some other upper secondary course. Students who wish to obtain university entrance qualifications in addition to vocational competence and a vocational certificate may take additional theoretical courses after they have completed their technical or vocational training. In this way, as I have mentioned above, a student can obtain a vocational certificate and university entrance qualifications in four years. The condition is that the student start his or her education in a vocational direction, however, not the other way round. This will probably make vocational education more attractive to bright students, and we have already seen evidence of this effect.

Flexibility of Student Programmes

The degree of flexibility present in student programmes is above all a question of what choices the students can make in relation to different courses. If a student chooses the academic path through the Norwegian upper secondary school, he or she will have quite a limited number of choices. There are just a few general courses leading to university entrance qualification, and when a choice has been made, it is practically irreversible. The students are not allowed to switch to a vocational path if they have started along the academic path. On the other hand, if they select one of the ten vocational Foundation Courses, they can choose among a number of Advanced Courses I, leading to an even greater number of Advanced Courses II. This is due to the increase in specialization that takes place during the three years of vocational education. In addition, after two years of vocational training the students can take a special Advanced Course II consisting of general subjects, called Advanced Course II General Subjects Supplement, and obtain university entrance qualifications.

Curriculum Development

The curriculum of Norwegian upper secondary education comprises

a core curriculum which states the overall objective for education of this type;

subject syllabuses which state the aim and main elements of the individual courses.

The core curriculum is based on the general aims expressed in the country's educational legislation, and is a binding document of fundamental importance. It lays down the overarching and key principles defining the teaching contents and methods of primary, secondary and adult education.

As regards subject syllabuses, the following principles have been introduced:

1. Broad syllabuses, applicable regardless of where the training takes place and of which groups receive the training;
2. The syllabuses are divided into modules, which may consist of one subject or part of a subject. Modular division is a means of accommodating the needs that certain pupils have for linking sections of their education in order to gain recognized qualifications. This may apply to adults, labour market education, individual pupils and groups of pupils who for various reasons cannot follow a full course of training. Modular division will make it easier for schools to relate their courses to the needs of industry.
3. A wide concept of knowledge is applied, covering the development of knowledge and skills, ethical values and attitudes, and personal qualities like social competence, entrepreneurial skills, communicative skills, etc.
4. Internationalization, the environment, and computer technology are included in all syllabuses.

Methodological aids and other materials have been prepared to assist teachers. The purpose is to give advice on how the objectives set out in the syllabuses can be realized, including how classroom practice can meet the needs of an entire age cohort.

After completing primary school Scottish students may remain at secondary school for four, five or six years. The upper secondary or post-16 phase starts after the fourth year (S4). Today fewer students leave school after the fourth year than was the case earlier.

Those who leave school from S4, S5 and S6 may continue to study part-time or full-time at a college of further education (FE). Most of those who enter higher education do so from S6, some from S5 or from a further education college.

Informally speaking, there are three types of post-16 courses and diplomas available in Scotland. Two kinds of courses qualify young people for university studies, Highers and Certificates of Sixth Year Studies (CSYS). Both are single-subject courses. Highers are available in S5 and S6 or further education colleges. CSYS are available in S6 for students who have a Higher in a subject and need further preparation for university study.

General vocational courses, available in school or in further education colleges, lead either to National Certificate (NC) or General Scottish Vocational Qualifications (GSVQs). NC modules are a national framework of some 2000 outcome-based modules, while each GSVQ covers a broad occupational area and has a substantial general education component. Full-time further education students usually follow ready-made programmes of modules.

Occupational courses leading to Scottish Vocational Qualifications (SVQs) are modular awards which certify competence in specific occupations. They are mainly delivered and assessed in the workplace. In addition there exists some other vocational qualifications outside the GSVQ/SVQ framework.

The three types of courses do not form separate 16-to-18 tracks. Most Scottish students combine courses of different types, including academic and vocational courses concurrently or sequentially. Two other features of the Scottish system worth noting are that typically the post-compulsory phase is short and there is a high rate of entry to and graduation from universities while intermediate-level attainments are relatively poor. These two factors are connected, for despite rising participation, there is still a tacit assumption that beyond around 18 years formal education is only worth while for those who are in higher education or who aim to get there.

The present system described above serves its students badly, whether they are high-, medium- or low-attainers. To reform the weaknesses of the system, General Scottish Vocational Qualifications (GSVQs) were introduced in 1992, while *Higher Still* was announced in 1994 and should be introduced in 1998. One-year GSVQ programmes have been piloted in a gradually increasing number of occupational areas. *Higher Still* proposed that group awards within the unified system would be based on the existing GSVQ developments. In this respect GSVQs are the nearest to be found to a pilot for *Higher Still*.

Under *Higher Still*, Students will have access to courses in a range of subjects embracing both "academic" and "vocational" learning. They

may take courses at different levels in the same year. In successive years students can progress either vertically up the ladder, by taking the same subjects at a higher level, or horizontally by taking additional subjects at the same level, or a mixture of both. In principle students may "pick and mix" courses and units, much as they do with Highers at present. In practice their choices will be restricted by the (non-)availability of courses and by timetabling constraints, and schools and colleges may impose requirements to preserve curricular coherence. Students may, if they wish, select pre-specified combinations of courses/units, which will lead to named group awards.

One but only one of the aims of *Higher Still* is to integrate academic and vocational learning and assessment, while parity of esteem is seen as an aspect of expanding existing provision across the general/vocational divide rather than as an independent aim in itself. Links between academic and vocational learning were not originally perceived to be a major element of the problem to be addressed, the weaknesses of the general school system. Moreover, the aims of *Higher Still* vary across the different participants in the reform. It appears that parity of esteem, or unifying academic and vocational learning, are seen as more important aims by further education colleges and by industry than they are by many staff in secondary schools. Many of the key participants responsible for implementing the reform, especially in the (general) school system, do not perceive it primarily as an attempt to establish parity. *Higher Still* is presented as an evolutionary reform that builds on existing provision. It is still represented in the media primarily as a reform of the (academic) Higher.

However, parity was a central theme of the debates which preceded *Higher Still*; and the problems in the general school system to which *Higher Still* responds are closely linked with the low status of the vocational modules attempted by lower- and middle-attaining students. Possibly the theme of parity has now been accepted to the point where it is largely implicit. This may have implications for the clarity with which concepts of parity, and related policy objectives, are defined.

A previously suggested model of two tracks was strongly rejected in Scotland although most European countries retain multi-track or two-track systems of post-compulsory education. One of the reasons why a unified system of post-compulsory education represented by *Higher Still* is much easier to introduce in Scotland is the weak tradition and poor structure of its vocational education. Additionally, Scotland has a large higher education sector while the labour-market standing of intermediate-level vocational qualifications is poor, which creates strong pressures for academic drift, further impeding the task of constructing a strong vocational track.

Scotland has been named as a leading example of the modular approach to linking academic and vocational learning. *Higher Still* represents a considered attempt to overcome a number of problems which a modular approach has to overcome, including problems associated with assessment, fragmentation of the curriculum, academic drift and institutional diversity. The modular strategy still raises a number of questions.

The failure to incorporate work-based provision (and the main work-based qualification, the SVQ) is possibly one of the main limitations of *Higher Still*. *Higher Still* may accelerate the marginalisation of the work-based route, a process already in train as participation in full-time education continues to rise. Conversely, *Higher Still* remains overwhelmingly based on full-time delivery in schools and colleges, with very little scope for alternance or for input from the workplace.

Scottish Vocational Education Council (SCOTVEC) was invited to develop broadly-based qualifications within the SVQ framework. In 1994 SCOTVEC was asked to fully implement GSVQs on an interim basis by 1996, pending the introduction of *Higher Still*. Whereas the policy shift in England was characterized as a retreat from a three-track system, the GSVQs (unlike GNVQs) never constituted a middle track model but has been often combined with credits from the academic track.

Unlike the local initiatives and experiments being carried out in many other European countries, the reform being introduced in Scotland is both national and *systemic* in scope. Its key defining features (its structure of courses and certificates) must be determined at a national level. This has several implications for the change strategy. First, as noted above, a systemic reform is likely to have diffuse aims. Second, one cannot pilot a systemic reform. At most one can pilot particular aspects of the reform, and in some respects the GSVQ pilots have done this. Third, it means that the policy change must be "top-down", or at least coordinated centrally. It contrasts with the "bottom-up" changes being attempted in England and Wales.

The Development of a Unified System of Post-Compulsory Education in Scotland

David Raffe

Centre for Educational Sociology
University of Edinburgh

Introduction

In 1998 Scotland will introduce what is arguably the first unified system of post-compulsory education in Europe.¹ A national reform, known as *Higher Still*, will bring academic and vocational education together in a single curriculum and assessment system.

The *Unified Learning Project*, which will start in April 1996, will compare the strategy of the Scottish reforms with the very different developments in England and Wales.² To understand a strategy for educational reform we must analyse the model of change which underlies it. The study will analyse the process of educational change, the way this process is conceptualised within the reform strategy, and the way the strategy itself changes as it comes to terms with the practicalities of implementation. The Scottish contribution to the Leonardo Project will draw primarily on this study.

This paper describes the Scottish reforms and the model they aim to introduce. It makes some preliminary comments on the strategy for linking academic and vocational education, primarily to give a flavour of some of the issues to be explored in the *Unified Learning Project* and in the Leonardo Project. There are four main sections of the paper. The first gives a simplified description of the present Scottish system. The second section lists some of the problems and pressures to which the current reforms respond. The third section describes the unified system which *Higher Still* aims to implement. The final section discusses aspects of the strategy.

¹ Scottish Office Education Department, SOED (1994). The definition of a "unified system" is a matter for debate. The Swedish reforms also introduce a unified curriculum and assessment system, but preserve distinct vocational and general programmes.

² "Unifying Academic and Vocational Learning: Scottish and English/Welsh Approaches", conducted jointly with the Post 16 Education Centre of the University of London Institute of Education, from April 1996-March 1998. The researchers are Cathy Howieson, David Raffe, Ken Spours and Michael Young.

The Present Scottish System

The *Higher Still* reform claims to be evolutionary: it builds on existing provision. To understand *Higher Still* it is therefore necessary to understand the present system in some detail. However, Scottish post-compulsory education, like the other systems of the United Kingdom, cannot be represented by a single organigramme or map. It requires two maps: one for institutions, and one for courses and diplomas ("qualifications" in the British sense of the term). These two maps do not coincide: the same courses may be taken in different types of institutions, and *vice versa*.

Institutions

The first map, of institutions, is presented in Figure II-12. Full-time education is compulsory from the age of 5 to 16. Pupils attend *primary school* for seven years and transfer to *secondary school* at age 12. Most schools are public, co-educational and comprehensive. Students may remain at secondary school for four, five or six years. In 1993/94 24 per cent of school leavers left from fourth year (S4), 32 per cent from fifth year (S5) and 44 per cent from sixth year (S6) (Scottish Office, 1995). Participation has increased; many more young people stay on to S5 or S6 now than did so a few years ago (Paterson & Raffe, 1995; Surridge & Raffe, 1995). The upper-secondary or post-16 phase starts after S4.

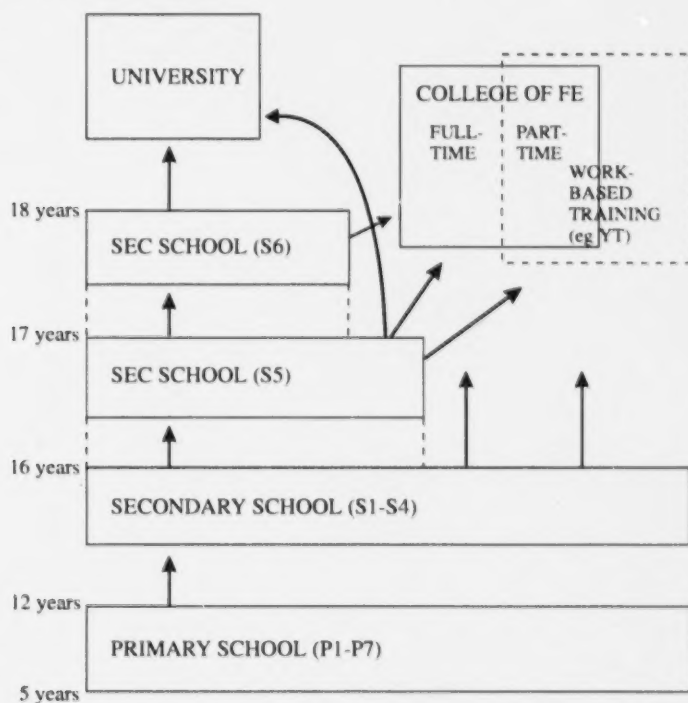


Figure II-12. Map of Scottish Institutions

Those who leave school - whether from S4, S5, S6 - may continue to study at a college of Further Education (FE). FE colleges provide a variety of courses for a variety of students. Over three-quarters of the students are adults, and many are studying higher education courses. About 15 per cent of young people study full-time in FE, typically for one year although this may vary. A somewhat larger proportion of young people study part-time in FE, often as part of a programme of *work-based training* such as an apprenticeship or Youth Training (YT) scheme. Approximately 30 per cent of young people enter YT, although many do not complete their training.

In 1993-94 38 per cent of young people entered full-time higher education, mostly at university, although some studied advanced courses in FE. Most entered from S6; some from S5 or FE.

Courses and Diplomas

The second map depicts courses and diplomas available to young people beyond 16. Informally these may be grouped into three types:

Academic Courses: *Highers* are the main courses which qualify young people for University. They are single-subject courses, usually of one year duration (each Higher is notionally covered in 120 class hours), available at school (in S5 or S6) or FE. A "high-flying" student may take five Highers in S5, although most students attempt fewer than five Highers courses in S5 and spread their Highers over S5 and S6.

CSYS (*Certificate of Sixth Year Studies*) are also single-subject courses; they are available in S6 for students who have a Higher in a subject and need further preparation for university study.

Highers and CSYS courses are individually certificated; that is, a student's qualifications on leaving school will consist of a number of Highers and CSYS passes. They do not form part of a group award; there is no national School Leaving Certificate or High School Diploma.

General Vocational Courses: NC (*National Certificate*) modules are a national framework of some 2000 outcome-based modules (each of a notional 40 hours' duration). They are available in school and FE colleges in a range of general and vocational subjects. School students have tended to "pick and mix" modules in combination with academic courses. Full-time FE students usually follow ready-made programmes of modules. Like Highers, modules are individually certificated, although they may form part of group awards such as GSVQs or SVQs.

GSVQs (*General Scottish Vocational Qualifications*) are programmes of 12 NC modules (at level 2) and 18 NC modules (at level 3), taken over one year. Each GSVQ covers a broad occupational area and has a substantial "general education" component. GSVQs were introduced on a pilot basis in 1992, and are available in schools (S5 and S6) and FE colleges. In 1996 they will be fully implemented and will develop into the group awards within the *Higher Still* framework (see below).

Occupational Courses: SVQs (*Scottish Vocational Qualifications*) are modular awards which certify competence in specific occupations. They are mainly delivered and assessed in the workplace, although many trainees pursuing SVQs attend FE part-time. A majority of young people attempting SVQs are on YT or in other work-based training.

Other Vocational Qualifications: some vocational qualifications are not included in the SVQ/GSVQ framework, although most of these are at higher levels.

Features of the System

The three types of courses do not form separate tracks from 16 to 18 in the way that A levels, GNVQs (General National Vocational Qualifications) and NVQs appear to do in England and Wales. Most Scottish students combine courses of different types, including academic and vocational courses, either *concurrently* (most S5 and S6 students take combinations of Highers and NC modules) or *sequentially* (many students progress from academic to vocational courses during the 16-18 stage, for example from Highers in S5 to NC modules in FE). This boundary-weakness is possible because of the modular or semi-modular nature of the system. Most school courses are single-subject Highers or stand-alone modules so they can be studied in combination; and most courses last a year or less, so students can move between different types of programmes during the post-compulsory phase.

Two other features of the Scottish system are worth noting. First, the post-compulsory phase varies in length but is typically short; an able student can achieve qualifications for University in one post-compulsory year (in S5, by age 17). Second, Scottish education tends to be top-heavy: there is a high rate of entry to, and graduation from, university (on one definition, the highest in Europe (OECD, 1995)) but attainments at the intermediate level are relatively poor. These two factors are connected; despite rising participation, there is still a tacit assumption that beyond around 18 years formal education is only worth while for those who are in higher education or who aim to get there.

Problems and Issues

Over the past few years a consensus has grown that the present system needs to be reformed. One way to summarise the huge volume of debate is in terms of three groups of students, each of whom is not well served by post-compulsory education at present:

Students with high attainments at 16 continue to follow the traditional path through Highers to university. However, it is felt that the one-year Higher represents too low a level of attainment to prepare young people for university study in the subject, and compares poorly with its European equivalents. The short duration of Highers courses is stressful and encourages a teacher-centred pedagogy which does not prepare students for independent study at university;

Students with medium attainments are staying on at school in increasing numbers but experience an unsatisfactory curriculum and often achieve poor results. Highers tend to be too demanding, but NC modules have low status. The available choice of courses and modules may be arbitrary and lack coherence;

Students with low attainments are staying on at school in increasing numbers, but a majority still leave at 16. Many enter work-based training, which is criticised for narrowness and for low or inconsistent quality.

Higher Still mainly addresses the needs of the first two of these groups. It should be noted that the weaknesses of the present system have not been seen primarily in terms of the divisions between academic and vocational learning (except to the extent that the low status of vocational courses and modules have contributed to the prob-

lems of students with medium attainments). To some extent, therefore, we may say that links between academic and vocational learning were not perceived to be a major element of the problem, even if they are part of the solution.

In 1992 a government-appointed committee published a review of upper secondary education (the Howie Report: SOED, 1992). It endorsed the need to reform the system and proposed a model based on two tracks which would diverge at 15 years. The public response to the report, while accepting the need for change, almost unanimously rejected the proposal for separate tracks. After a period of reflection the Government announced its reform plans in 1994 in a document entitled *Higher Still* (SOED, 1992). A Development Programme was established and it is intended that the new system should be introduced in 1998.

One further development should be mentioned. In 1991 the Government announced that it would introduce GNVQs in England and Wales, mainly for full-time post-16 students whose needs were met neither by A levels nor by "occupational" (work-based) NVQs. As often happens in the UK, a policy designed for England and Wales was exported to Scotland: GSVQs were introduced in 1992. However, GSVQs in Scotland are significantly different from GNVQs in England, and play a different role in the system. One-year GSVQ programmes in five occupational areas were piloted from 1992, and a further five areas were added in 1993, and others have been added since. GSVQs are available at three levels³ so they offer an alternative progression ladder for students beyond 16. However, their early development was constrained by uncertainties over future policy and the framework of courses in which they would eventually have to find a place. *Higher Still* proposed that group awards within the unified system would be based on the existing GSVQ developments. In this respect GSVQs are the nearest we may find to a pilot for *Higher Still*.

The Proposed Unified System

The blueprint outlined in *Higher Still* has been modified in more recent documents, and will no doubt change again, so the following account must be seen as provisional. The architecture of the proposed unified system is summarised in Figure II-13. Students will have access to courses in a range of subjects embracing both "academic" and "vocational" learning. Each course is of notional 160 hours' duration, so a student will take several courses each year. The courses will be available at five levels, and students will take courses at the appropriate level given their existing attainment in the subject. The top two levels correspond to the existing Higher and CSYS, so a student entering S5 with a good level of attainment in a subject would typically continue the subject at Higher level, as at present. Students may take courses at different levels in the same year. In successive years students can progress either vertically up the ladder, by taking the same subjects at a higher level, or horizontally by taking additional subjects at the same level, or a mixture of both.

³ However a "typical" students starting a GSVQ at 16 would start at level II. The Level I GSVQ is broadly-based, and not available in the same occupational areas.

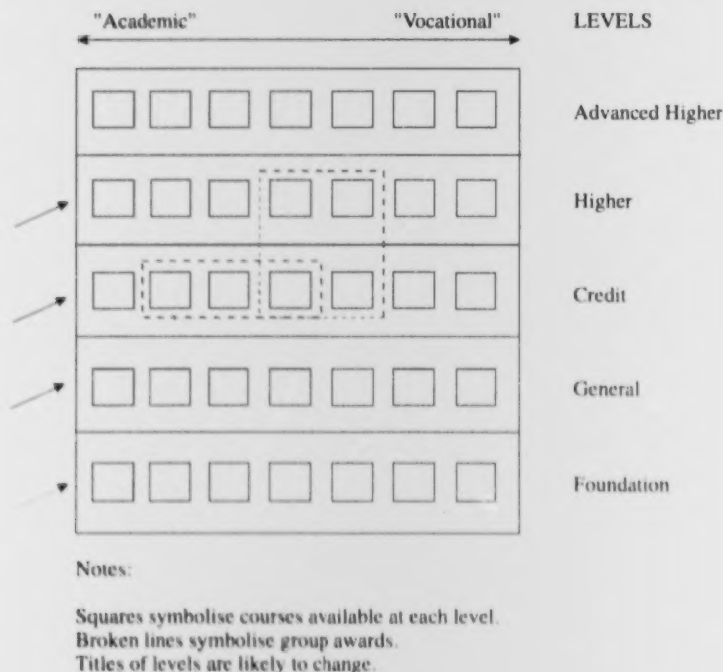


Figure II-13. *The Proposed Model*

Each course is composed of 40- or 80-hour units, totalling 120 hours, plus a further 40 hours "for induction, extending the range of learning and teaching approaches, remediation, consolidation, integration and preparation for external assessment" (HSDU, 1995a, p.3). Units may also be studied and certificated independently. I have not tried to represent units in Figure II-13, although in principle they represent a further aspect of flexibility.

In principle students may "pick and mix" courses and units, much as they do with Highers at present. In practice their choices will be restricted by the (non-)availability of courses and by timetabling constraints, and schools and colleges may impose requirements to preserve curricular coherence. Students may, if they wish, select pre-specified combinations of courses/units, which will lead to named group awards. Many of these group awards will be based on existing GSVQs and will develop knowledge and skills relevant to a broad occupational area.

The title *Higher Still* is intended to convey continuity: the *Higher* will still exist. *Higher Still* is presented as an evolutionary reform that builds on existing provision. Many courses will be based on existing Highers and CSYS courses. Other courses will be based on groups of NC modules; these will include vocational courses at the Higher and Advanced Higher level and more general courses at lower levels. Many group awards will be based on existing GSVQs. However, the demands of a unified system will nevertheless require a significant degree of change, in particular because of the need to apply consistent principles for specifying the curriculum, for assessment and for certification throughout the system.

The Strategy of *Higher Still*

The Leonardo Project compares different European strategies for linking academic and vocational learning. In this section I discuss some features of the Scottish approach which may be relevant to this comparison.

Does Higher Still Aim to Link Academic and Vocational Learning and to Achieve Parity of Esteem?

At one level the answer is obviously "yes": by definition, a unified system aims to unify academic and vocational learning. However, I suggested above that unification may be a part of the solution, but the original problem was largely defined in other terms.

Higher Still has multiple aims. The original policy statement listed nine reform aims, most of which addressed the various weaknesses of the existing system described above. One of the nine aims was presented as:

Expansion and Rationalisation of Existing Provision. Students should have access to a wider range of courses of a general "vocational" nature as well as "academic" subjects, and "vocational" and "academic" qualifications should enjoy equal status. (SOED, 1994, p.9)

Promoting parity of esteem thus counts for just half an aim out of nine.⁴

Moreover, the aims of *Higher Still* vary across the different participants in the reform. A current process of consultation attempts to share ownership of the reform with those who implement it. However, if participants in the educational system are to own *Higher Still*, their own interpretations of its aims and their own priorities will shape its progress (Fullan, 1991). These interpretations and priorities vary across the different participants who are involved. For example, it would appear that parity of esteem, or unifying academic and vocational learning, are seen as more important aims by FE colleges and by industry than they are by many staff in secondary schools.

Why Develop a Unified System in Scotland? Is the Strategy Applicable Elsewhere?

Most European countries, even those which are pursuing closer links between academic and vocational learning, retain multi-track systems of post-compulsory education, even if they are typically trying to make these more "flexible". By developing a unified system Scotland may be distancing itself from the European mainstream, or it may be leading it.

The Howie Report's proposal for a two-track system met with strong opposition from nearly all sections of the Scottish educational community. Given the need to rationalise the system, a unified approach has a much greater chance of winning support. However, there are more pragmatic reasons for developing a unified system in Scotland (Raffe, 1995):

The relative flexibility of curricular pathways and the flexibility of institutions in the present system provides a basis for the development of a unified system;

It would be difficult to construct a strong vocational track in Scotland given its weak tradition of vocational education, especially in full-time education, and the continuing structural weaknesses of vocational training;

⁴ But other aims of *Higher Still* - such as "recognised qualifications for all" - are at least as relevant to the general goal of unification, and more realistic.

The relatively large higher education sector, and the poor labour-market standing of intermediate-level vocational qualifications, create strong pressures for academic drift in post-compulsory education; these pressures would further impede the task of constructing a strong vocational track, and suggest that vocational education can best achieve status by sharing the forms and structures of the academic mainstream.

These pragmatic reasons are specific to Scotland (although they apply to some extent to the whole of the UK, and probably to other countries such as Ireland, Australia and New Zealand). However, it is at least arguable that the pressures of credentialism and academic drift may make the same logic increasingly applicable in other European countries (Raffe, 1994a; OECD, forthcoming).

The Modular Model

The Leonardo proposal identifies the "modular" approach as one of three main strategies or models for linking academic and vocational learning, and names Scotland as a leading example of this approach. In an earlier paper I analysed a number of problems which a modular approach had to overcome, including problems associated with assessment, with fragmentation of the curriculum, with academic drift and with institutional diversity. (Raffe, 1994b). The blueprint outlined in *Higher Still* represents a considered attempt to overcome these problems. The problems of assessment - the workload imposed by assessment, and the lack of external credibility of internal assessment - are addressed by making units internally assessed and courses externally assessed. (They are also addressed, at least in principle, by the proposal to allow students to "by-pass" external assessment in a subject at one level if they are to take it to the next level.) The risk of fragmentation present in a modular curriculum is reduced by making 160-hour courses rather than 40-hours units the main building blocks of the curriculum. The dangers of academic drift are at least kept in check by a system which provides for formal equality and consistency of approach across all academic and vocational courses. The problem of institutional diversity has been side-stepped rather than addressed by *Higher Still*: the new courses will be available in schools and colleges but are primarily designed for full-time study. The failure to incorporate work-based provision (and the main work-based qualification, the SVQ) is possibly one of the main limitations of *Higher Still*. Only a small minority of young people now leave school at 16 to enter work-based training, but those that do may cut themselves off from the educational mainstream.

Arguably there has been a partial retreat from modularisation, or at least the modular approach of the National Certificate. *Higher Still* addresses several of the problems of modularisation, as described above, by making units larger: the main component of the new curriculum will be the 160-hour course, rather than the 40-hour NC module. *Higher Still* allows students to select free-standing units (modules), but the early implementation studies suggest that most units, at least in mainstream subjects, will be offered as parts of courses (HSDU, 1995b).

The modular strategy raises a number of questions, including:

How will young people navigate their way through the system? Will most movements be "vertical", to higher levels of provision, or will students (especially those who may find the higher levels of attainment too demanding) also be motivated to progress "horizontally" by taking additional courses at the same level?

Who will take the group awards, and why? Will they be the means by which tracks re-emerge (especially if most group awards are taken either in broad occupational areas or in general subjects at levels below Higher)?

How and to what extent will the reform unify academic and vocational learning? Will it do so primarily through an *integrative* process (internal changes to the curriculum and pedagogy of each course or unit, for example in order to "embed" core skills) or an *aggregative* process (by encouraging new combinations of academic and vocational courses) (Raffe, 1994b)? Will there be an appreciable change in the curriculum of the most able - or "most academic" students?

How will the end-users of the system (especially universities and employers) perceive the value of the different certificates and awards? Will they continue to perceive a difference in esteem for academic and vocational curricula?

Will schools and colleges be able to provide the range of courses, at the range of levels, required to make the system effective? "Multilevel" teaching - the delivery of courses at more than one level to the same class - has emerged as an issue in the consultation, but has implications for pedagogy.

Will the system develop as a "ladder" or a "race"? In principle the unified system provides a single ladder for all students. All may aim for the same levels of attainment, even if they start at different rungs on the ladder and take different lengths of time to reach their aim. However, this will not happen if young people continue to regard post-compulsory education as a race, in which only attainments by 18 years are important. *Higher Still* requires a reversal of the prevailing assumption that education beyond 18 is only worth while for young people in higher education, or aiming to get there.

Will the system develop as part of a unified framework of lifelong learning? *Higher Still* will be available to adults as well as young people, and on paper it harmonizes with the SCOTCAT system of Credit Accumulation and Transfer in higher education.

What Model of Change Underlies the Strategy?

Higher Still claims to be evolutionary; it consolidates past reforms and rationalises existing practice. However, the evolutionary character of the reform may have been exaggerated by the Government in its attempt to gain the support of staff in schools and colleges. Scottish education has seen frequent changes in recent years and the workloads and stresses of teachers have become a major issue. "Innovation fatigue" is rife. Teachers may be reluctant to embrace more visionary goals, such as unifying academic and vocational learning, when they find it difficult to cope with the everyday practicalities of their job. Partly as a result, the Government has tended to present the policy as a moderate, evolutionary change and to understate the extent of the changes it will introduce. Its more visionary aims have been muted in the public presentation of the reform.

Unlike the local initiatives and experiments being carried out in many other European countries, the reform being introduced in Scotland is both national and *systemic* in scope. Its key defining features (its structure of courses and certificates) must be determined at a national level. This has several implications for the change strategy.

First, as noted above, a systemic reform is likely to have diffuse aims. There is no point in changing a whole system merely to solve a single problem; change on this

scale can only be justified if it addresses all, or at least most, of the problems facing the system.

Second, one cannot pilot a systemic reform. At most one can pilot particular aspects of the reform, and in some respects the GSVQ pilots have done this. However, the lessons learned from the GSVQ pilots may not be directly transferable to the very different situation which will apply when the systemic change is introduced.

Third, it means that the policy change must be "top-down", or at least coordinated centrally. It contrasts with the "bottom-up" changes being attempted in England and Wales, where some institutionally- and locally-based initiatives are seeking to link academic and vocational learning within the context of a centrally-defined three-track system. However, the distinction between "top-down" and "bottom-up" change is not a simple one. The *Higher Still* development process incorporates elements of three distinct principles of educational control: *network, market and hierarchy* (Raab, 1994, p.15). It is proceeding through a major process of consultation, and involves large numbers of people from different sectors of the educational system. However, even this consultation takes place within parameters - notably the level of resources - which may lead many participants to doubt that they "own" the reform.

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Issues in the Scottish Reform Programme: *Higher Still* in Relation to the Six Themes

David Raffe

Centre for Educational Sociology
University of Edinburgh

Introduction

These notes identify issues relating to the Scottish *Higher Still* reform. They are grouped according to the six themes identified at the February workshop of the Post-16 Strategies Project, although the themes overlap. The notes build on the Scottish paper presented to the February workshop;¹ readers should refer to this earlier paper for an account of *Higher Still* and its context, including an overview of Scottish education and training and the shortcomings which the reform set out to redress.

The paper should be read as a set of notes drafted to support the process of comparison and synthesis, not as a linear argument.

Higher Still has not yet been implemented (it is scheduled to be introduced in 1998). As a system-wide reform, it cannot be piloted, although other current innovations, including General Scottish Vocational Qualifications or GSVQs, may pilot specific features of the reform. This paper is therefore forward-looking. It focuses on:

the aims and strategy of the reform; and

issues which may arise, including those identified in national debates and on the basis of academic analyses of the Scottish system and its development.

Parity of Esteem

Strategies for Parity

Among European countries we can identify three approaches to "parity of esteem":

strategies which emphasise and reinforce *differences* between academic and vocational learning; these strategies seek to raise the standing of the vocational by giving it a distinct character, ethos and value-system, so that its status is not based on judgements in terms of academic values;

¹ David Raffe, "The development of a unified system of post-compulsory education in Scotland", February 1996.

strategies which emphasise and reinforce *linkages* between academic and vocational learning by offering flexible pathways, opportunities for credit transfer, mutual enrichment, etc. These strategies seek to raise the status of vocational learning by bringing it closer to academic learning and reducing its separateness;

strategies for *unifying* academic and vocational learning, which seek to raise the status of the latter by bringing it into the same system as academic learning and, ideally, abolishing the distinction.

Different strategies may be appropriate in different national contexts. In Scotland the vocational tradition is relatively weak; there is a large and powerful higher education system; there is no strong demand for vocational qualifications at the intermediate level. These factors make the third (unifying) strategy appropriate. At present, the Scottish system resembles the model described as the second (linkages) strategy. *Higher Still* approximates the third strategy.

Because of its closeness to the linkages strategy, the present Scottish system may illustrate a potential weakness of this strategy: that as academic and vocational learning are brought closer together (e.g. with the same students engaging in both), the differences in status are made more visible and vocational education is less able to develop its own ethos and values. Because of the weak boundaries in the Scottish system, in which many students take academic and vocational courses, the difference between these courses in terms of curriculum design, pedagogy, assessment and certification have tended to reinforce the low status of the latter. The Leonardo Project should examine whether this is an inevitable consequence of what I have called the linkages strategy. For example, why do visible differences between academic and vocational provision undermine the status of vocational provision, rather than call into question the assumptions, values and practices of academic provision?

Higher Still's Notion of a Unified System

Higher Still aims to "bring the variety of courses offered at present into a unified curriculum and assessment system". This system is intended to be inclusive, and to reduce current divisions, in two respects:

in respect of students: the reform aims to provide relevant opportunities for all students, at all ability levels;

in respect of curricula: it aims to give students "access to a wider range of courses of a general 'vocational' nature as well as 'academic' subjects, and 'vocational' and 'academic' subjects should enjoy equal status".

Is Parity a Central Aim of Higher Still?

At first sight, parity of esteem does not appear to be a central aim of the reform:

in the *Higher Still* document, the only direct reference to parity is in the passage quoted above;

the main stimuli to reform were problems in the general school system;

many of the key participants responsible for implementing the reform, especially in the (general) school system, do not perceive it primarily as an attempt to establish parity (especially in the strong sense of parity - see below). It is still represented in the media primarily as a reform of the (academic) Higher.

However, parity was a central theme of the debates which preceded *Higher Still*; and the "problems in the general school system" to which *Higher Still* responds are closely linked with the low status of the "vocational" modules attempted by lower- and middle-attaining students. Possibly the theme of parity has now been accepted to the point where it is largely implicit. This may have implications for the clarity with which concepts of parity, and related policy objectives, are defined.

Weak and Strong Concepts of Parity

The concept of parity in *Higher Still* is, implicitly, a weak one: one in which academic and vocational education have the same formal status. Common principles for organising and specifying the curriculum, and for assessment, will apply to all courses; the same certificates will be awarded for academic and vocational courses; in effect, the terms "academic" and "vocational" and the distinction between them will no longer have any formal meaning within the system.

A strong concept of parity would be one in which academic and vocational courses are equally attractive to students at all levels of ability, and in which their exchange value is equivalent. However, parity in the weak sense may be a means for promoting greater parity in the strong sense. By removing the terms "academic" and "vocational" from the formal discourse of education, *Higher Still* may in the longer term help us to move towards a situation in which these terms cease to be major principles for organising the curriculum and for shaping its future.

Nevertheless it will not be easy to move to parity in the strong sense. Group awards will not be mandatory; many students (probably including the most able) will not follow pre-selected programmes. Instead they will choose the subjects most likely to be demanded by end-users (higher education and employment). In effect, by not making group awards mandatory, and by not imposing "core" curriculum requirements, those responsible for the educational system have relinquished some of their influence over the curriculum, and over the different values that end-users attribute to different subjects. Given the size and influence of the higher education sector in Scotland (with most Highers students progressing to university) this means that the attitudes of higher education, and the criteria used to select students for higher education, will be crucial in determining whether the Scottish system moves towards parity in the strong sense.

Labour Market Context

Aims and Strategy

Higher Still aims to provide

- higher standards of attainment;
- opportunities for all students to gain "marketable" qualifications;
- competence in "core skills" (communication, numeracy, information technology, personal and interpersonal skills, and problem-solving).

Of these three aims, the first is probably the most important for understanding the strategy of *Higher Still* with respect to the labour market. As in other European countries, the need to develop skills and competencies to enhance economic competitiveness is a major factor driving policy for education and training. However, in

contrast to some other countries, this need is perceived more in quantitative than in qualitative terms, at least with respect to the 16-plus stage. That is, government policy aims to achieve "targets" which specify the proportions of (young) people reaching particular levels of attainment. How these targets are achieved - the content of learning - tends to be a secondary consideration (although the need for enhanced core skills is a policy concern). The curriculum may be discussed more as a means than an end. (For example: which type of curriculum is most likely to motivate young people to learn and to achieve the targets?)

Underlying this priority is a belief in a sound "general" education as the best base for economic performance and for future learning; and, more pragmatically, that it is not realistic in the Scottish context to try to develop a major separate vocational track.

Influence of Education Versus Labour Market

Higher Still responds primarily to internal problems of the educational system rather than to new demands from the labour market. One can identify a broader "vision" of the curriculum needs of the labour market of the future; but one can be sceptical of the direct influence of that vision on the development of *Higher Still*. A majority of students who continue in full-time education beyond 16 progress to higher education, which is likely to have the stronger influence, direct and indirect, over the *Higher Still* curriculum. The main exceptions are students in full-time further education, a majority of whom progress to the labour market rather than higher education.

Industry Input to Curriculum Re-Design

Although *Higher Still* builds on existing courses, these have to be revised to fit into the new unified system and some new courses will be introduced. It is premature to assess these changes and the extent to which they can be seen to adapt to labour-market changes.

Marginalisation of Work-Based Provision

The new framework will not include Scottish Vocational Qualifications (SVQs), which are the main qualifications for work-based learning in Scotland. Most young people taking SVQs are on Youth Training schemes (or on training supported through Skillseekers - credits - which are replacing YT). SVQs were introduced in 1990 and have still to become fully established. Even if they have escaped the strongest of the criticisms made of their English equivalents (NVQs), their general design is similar, their uptake is still relatively low and work-based youth training still has some of the low status it inherited from the unemployment schemes of the 1970s and 1980s. *Higher Still* may accelerate the marginalisation of the work-based route, a process already in train as participation in full-time education continues to rise. Conversely, *Higher Still* remains overwhelmingly based on full-time delivery in schools and colleges, with very little scope for alternance or for input from the workplace.

Educational System

Relation to Existing System

The Scottish system was described in the previous paper. Relevant features of this system include:

weak boundaries between academic and vocational learning, largely arising from the "semi-modular" nature of courses and the absence of lines or set programmes: students take combinations of academic and vocational courses and progress from one to the other;

the "top-heavy" nature of the system, with a large and strong higher education system;

the relative weakness of vocational education, and the absence of a strong vocational tradition distinct from general education;

a system dominated by comprehensive schools, each of which would expect to offer a programme leading to mainstream higher education, together with a network of further education (vocational) colleges a majority of whose students are from older age groups;

rising participation in full-time education, as a result of which the work-based route is becoming largely confined to less-qualified school leavers.

These features may provide some of the dimensions for comparing the countries in the Leonardo Project.

Higher Still aims to expand and rationalise this system, to unify and simplify it, and to consolidate earlier reforms. In other words it focuses on the system rather than on processes, and its aim is evolutionary - to rationalise existing provision - rather than revolutionary.

The Modular Strategy

Modularisation is central to the *Higher Still* strategy, in two respects:

If the Scottish system were not already (semi-)modular, it would be much harder to introduce change in a (reasonably) progressive and evolutionary manner. Modules and short courses provide a basis around which existing provision can be converted to the new provision. They will also provide a basis for provision to continue to expand and develop after the new system has been introduced. Even if (as pessimists fear) the changes introduced in 1998 represent only a minimal change to the existing arrangements, the modular structure would allow for continued incremental development thereafter.

The concept of unified system which *Higher Still* represents is based on modularisation: units and courses provide the basis for the construction of programmes, for the overlap of academic and vocational courses and for flexibility of pathways and for the "seamlessness" of the new system.

Earlier Scottish debates identified several potential problems of modularisation, including: problems of assessment (workload, credibility of internal assessment with external users); risk of curricular fragmentation; risk of academic drift; problems associated with institutional diversity.² It is still relevant to ask whether these potential problems arise under *Higher Still*. The design of *Higher Still* responds to some of these problems. For example, 160-hour courses rather than 40-hour units will be the main building blocks of the new curriculum. The proposals also attempt to balance the need

² David Raffe, "Modular strategies for overcoming academic/vocational divisions: issues arising from the Scottish experience", *Journal of Education Policy*, 9, 141-154, 1994.

for internal assessment (for reasons of logistics, resources and validity) with the need for external assessment (for reasons of credibility and "marketability" of certificates). There will be external assessment for each course, but the units which make up each course (as well as free-standing units) will be internally assessed. (It will also be possible for a student to bypass external assessment if he or she plans to continue the same subject at the next level, although it is unlikely that many students will use this option.)

Systemic Change

Higher Still also represents a systemic change. This has a number of implications:

First, it limits the extent to which the change can be purely evolutionary. The change process will not be gradual: on a specific date (currently scheduled for 1998) the old system will be replaced by the new. And the new system may have its own internal logic which differs from the old one.

Second, *Higher Still* cannot be piloted, at least not as a systemic change. At most one can pilot particular aspects of the reform, and the GSVQ pilots may do this (although this was not their original purpose). However, even the lessons from the GSVQ pilots may not be directly transferable to the new system, if as described above this has a different internal logic.

Third, the policy change has to be "top-down", or at least centrally coordinated. It will therefore contrast with the "bottom-up" reforms and local experiments described in many of the other countries in the project.

Fourth, reforms on the scale of *Higher Still* must have broad and diffuse goals. It may be unrealistic to expect any reform to solve all an educational system's problems, but a change on this scale would not attract political support if it did not promise to solve a good number of them.

Dynamics of Change

The goals and strategy of any reform become changed in the course of its implementation, as they are re-interpreted and re-defined by those who implement it. Rather than a static blueprint for a unified system, it is more useful to think in terms of dynamic models for analysing change. This raises the question: can such models be framed in terms that apply across the diverse countries in the Leonardo Project? (And if so, are the analytical models of change content-dependent: i.e. could we use the same models to analyse reforms of another aspect of education, or even reforms in a policy field other than education?)

System and Process

Although it focuses on the system, *Higher Still* will have implications for teaching and learning processes. Some of these will arise from the need to make academic and vocational learning more consistent. Others will arise from the likely increase in "multilevel classes".

Local Networking

Local Collaboration in Delivery

Higher Still aims to increase the opportunities available at 16-plus (offering courses in a wider range of subjects, and at different levels within each subject), but also to rationalise provision. One possible solution is greater institutional collaboration, with schools and college(s) in an area cooperating in the provision of less subscribed courses. In particular, to the extent that *Higher Still* will make a wider vocational curriculum available to mainstream students, it will require collaboration between schools and colleges, since only the latter may be able to deliver some elements of the vocational curriculum.

There is substantial experience in Scotland of collaborative delivery of post-16 courses, both among schools (rationalising the provision of less popular subjects) and between schools and colleges (with colleges typically offering resource-based vocational modules which schools cannot easily deliver). The volume of collaboration has always been locally variable and has declined since the mid-1980s (when it increased in response to the 16-plus Action Plan which, like *Higher Still*, sought to expand curriculum opportunities). Several of the CSVQ pilots have been delivered through school/college consortia.

Some issues in respect of school/college networking include:

- the problems of delivery in more remote and less populous areas, where there may be only one school and no local college with which to collaborate;
- problems arising from organisational and funding arrangements which encourage competition among institutions;
- the comparability of standards across different institutions and sectors.

Institutional Division of Labour

Because it removes formal curricular boundaries and unifies the curriculum, *Higher Still* may have implications for the division of labour among educational institutions. Some further education colleges fear that it may lead schools to expand their role and reduce the (already small) role for colleges in 16-18 education. Alternatively, it is possible that there will be more explicit specialisation between schools and colleges, with the former providing general and pre-vocational education and the latter providing vocational education especially at the more advanced levels. (Some of the literature produced by the Development Programme anticipates a division along these lines.) This in turn might have implications for the extent to which the system was truly unified. Another fear is that it will be harder for each school to offer the full range of options, and that schools will therefore come to specialise in different types of courses, with some schools offering more vocational courses than others. Such specialisation might reflect the social environment of the school and the educational backgrounds of its students.

Teacher Education/Co-Operation

Initial Teacher Education

As far I am aware, no changes in initial teacher education are envisaged as a result of *Higher Still*. However, the reforms may expose tensions associated with the separate qualifications for teachers in schools and further education colleges respectively, which tend to restrict college teachers from teaching in schools but not vice versa.

In-Service Training and Staff Development

Detailed plans have not yet been announced. The consultation process is intended to raise awareness, and as such to contribute to staff development. This process is seen as cascading down the different levels of management in the school system; at present it may have reached "middle management" (principal teachers responsible for subject departments in schools) but not significantly affected unpromoted teachers. Seminars for school managers, teachers and guidance staff are planned for the final year of *Higher Still*.

Teacher Cooperation

There is a broad consensus among teachers and the educational community in favour of the objectives of *Higher Still*. This consensus accepts both the need for change and the strategy of a unified system (previous proposals for a two-track system were strongly opposed). However, this support for the objectives of *Higher Still* has not translated into unanimous support for the specific proposals as they have been developed. This is a result of:

anxieties over specific aspects of the proposals: notably multilevel teaching and the fear that the increased internal assessment required for *Higher Still* will add to teachers' workloads;

a feeling that insufficient details have been published, and that there will be insufficient time to plan for and implement the changes;

long-standing concern over the rising workload of teachers;

innovation fatigue;

disaffection due to the increased managerialism within education;

cutbacks in spending, which are seen by many to threaten the reform and have led some local authorities to suspend cooperation with the Development Programme.

Qualifications, Flexibility of Student Programmes and Curriculum Development

Curriculum Structure

The *Higher Still* curriculum will be an "elective" or "portfolio" system. Students will be able to choose different possible combinations of courses (or units). There will be no compulsory core course, and no mandatory national guidelines restricting their

choice. The certificate will record the individual subjects taken, the level(s) at which they are taken and the grade achieved at each level.

If they wish, students may select courses which satisfy the requirements of *group awards*. Group awards will, in effect, be one-year programmes based on pre-specified combinations of courses and units. (There may be options within each group award.) Many group awards will be based on existing GSVQs. Many will be based on a broad vocational area such as Business, Care and Construction, or on a broad "general" area such as the Humanities or Science and Technology. They will all include requirements for core skills. They will be available at different levels and designed to allow progression. For example, students who complete a group award at Level 2 in the first post-compulsory year may progress to a Level 3 group award in the same subject in the second post-compulsory year. However, students who take a group award in one year may take a purely elective programme the next year, and vice versa.

How Will Students Construct Their Programmes?

Some of the key questions in the evaluation of *Higher Still* concern the way students construct their programmes, for instance:

Will students mix academic and vocational courses?

Will the correlation between prior attainment and curriculum choice weaken? In other words will high-attaining students take more vocational courses than at present, and will low-attaining students take more academic or general courses?

Will the overall balance of academic and vocational study in the curriculum change, and if so in which direction?

What role will group awards play in the system? Will they be used mainly by students taking more vocational programmes, and at the lower levels?

How will the *Higher Still* curriculum differ between schools (with a likely emphasis on the general curriculum) and further education (which may offer the more specialist vocational programmes)?

Will student progression be mainly vertical (continuing the same subjects from year to year but at a higher level) or horizontal (taking new subjects at each year but not necessarily at a higher level)?

Will students continue for longer periods of time within the system? Will *Higher Still* (which will be available to adults) establish new lines of progression between initial and continuing education, and within continuing education?

The answers to these questions will depend on the factors which constrain or influence student choices, including:

The availability of courses. In many secondary schools the range of options offered under *Higher Still* may be limited. Schools are likely to give priority to mainstream general courses which hold out the best option for progression to further or higher education. Schools' budgets are being squeezed, and they may not be able to offer many courses above this minimum.

Entry requirements for specific courses or units. For example, some courses and units may require that a student has typically completed a lower-level course on the same subject.

Curriculum requirements which institutions may impose, either as a matter of institutional policy or because of timetabling restrictions.

The demands of end-users, especially higher education. A majority of students in full-time post-16 education aspire to higher education. The answers to the questions raised in the previous paragraph will probably depend on the attitudes and selection criteria of higher education (and to a lesser extent of employers) more than on any other factor.

Clarity of pathways. Although the basic concept is simple, the specific choices under *Higher Still* could be extremely complex. To the extent that the system is not made transparent, with adequate guidance to support student choice, the conservatism of student choices may be reinforced.

Flexibility and the Model of the "Single Ladder"

In principle, *Higher Still* will offer a "single ladder" which all students may climb - even if they start climbing at different points on the ladder and climb at different speeds - in contrast to a multi-track model with separate ladders. This model assumes:

Multiple entry points: i.e. that students can start climbing the ladder on the rung which corresponds to their prior attainment in the subject. (This appears to contrast with the Swedish model, which does not differentiate provision according to prior attainment.) Courses therefore need to be available at different levels in each subject. This in turn has implications for delivery and resources: more courses must be provided than previously. It also has implications for pedagogy: students taking courses at different levels may need to be taught in the same class, leading to increased use of individual and group-based teaching methods rather than whole-class teaching methods.

That students can climb at different speeds: the length of *Highers* courses will be increased from 120 hours to 160 hours under the new system, allowing more time for remediation and "catching-up". Some students may take a smaller number of courses in order to increase their chances of success in each. However, it remains to be seen whether timetabling and organisational constraints in schools and colleges will allow full flexibility of pacing under the new system.

That all students can reach the top of the ladder: formally they can, if they want to and can achieve the required levels of attainment, but their attainments may be devalued in proportion to the time it has taken to achieve them. Many universities only take account of examination results achieved in a single sitting, or by a particular age; some opportunities in the labour market are still age-restricted.

The limitation of the single ladder metaphor is that it assumes that the only desirable progression is upwards. It may be equally desirable for students to progress horizontally, extending the range of subjects if not increasing the level of attainment.

Core Skills

One of the aims of *Higher Still* is to develop competence in the core skills of communication, numeracy, information technology, personal and interpersonal skills and problem-solving. Among the issues that arise are:

Whether core skills should be compulsory; the current proposals would merely "encourage" students to develop core skills, although they would be compulsory within the group awards;

How they should be delivered, in particular the extent to which they should be "embedded" in other subjects, as favoured in the recent consultation process. Embedding would side-step the issue of compulsion;

How they should be assessed and certificated;

More broadly, the extent to which they are treated as minimum requirements which many 16 year olds would already have satisfied, or as skills which can be mastered at a range of levels, including the highest. Formally, core skills are specified at a range of levels, but the prevailing attitude, particularly in more "academic" circles, is that core skills represent basic competencies and their main place in post-16 education is therefore remedial. The proposal that the certification of core skills in *Higher Still* may recognise prior attainment at 16 years may reinforce this attitude.

General Scottish Vocational Qualifications (GSVQs) in Relation to the Six Themes of the Post-16 Strategies

Jim Murray

Scottish Vocational Education Council, Glasgow

Introduction

In 1991 the Government White Paper *Access and Opportunity* outlined plans for changes in Scottish education and training. SCOTVEC was invited to develop more broadly-based qualification within the Scottish Vocational Qualification framework, which would be "relevant to employment and facilitate entry to higher education". General Scottish Vocational Qualifications (GSVQs) were to be aimed at 16- to 19-year-olds in schools and colleges, but also be appropriate for adult learners.

The first awards were piloted in a number of centres from autumn 1992. This pilot was evaluated and a further set of GSVQs was developed for piloting from 1993.

In 1994 the Government published its policy paper on the curriculum and certification for the upper secondary stage in Scottish schools, *Higher Still - Opportunity For All*. One decision contained in this paper was that SCOTVEC courses, including GSVQs, would be brought into a unified system. GSVQs would continue to be developed to link with the new *Higher Still* courses. In 1994 SCOTVEC was asked to fully implement GSVQs on an interim basis by 1996, pending the introduction of *Higher Still*.

Since 1995 existing GSVQs have been refined, and additional GSVQs have been developed and accredited.

National Certificate Steering Groups have been established for each award area, with the dual responsibility for developing new and revising existing GSVQs for 1996 and for developing National Certificates (*Higher Still* group awards).

The full list of GSVQs that will be available from August 1996 at Levels II and III are:

- Arts and Social Sciences,
- Business,
- Care,
- Communication and Media,
- Construction,
- Design,
- Engineering,
- Fashion and Beauty,
- Hospitality,

Information and Technology,
Land-Based Industries,
Leisure and Recreation,
Science,
Technology,
Travel and Tourism.

There is also a GSVQ Level I course.

Parity of Esteem

The promotion of GSVQs as a valid alternative to the traditional academic Higher Grade pathway may be undermined by the perception of teachers and potential users that it is a transitional programme which will cease to exist in a very short time-scale with the introduction of *Higher Still*. Only 11 schools, as opposed to 35 colleges of further education (FE) took part in the initial pilot in 1992/1993. Any assessment with the impact of GSVQs must constantly bear this factor in mind.

Since 1985 the primary users in schools of SCOTVEC qualifications have been students for whom a diet of Higher Grade courses would be inappropriate or too demanding. Some of the characteristic features of National Certificate vocational courses (unitised programmes, progression from a foundation entry level, absence of external assessment) have to some extent become associated in the perception of school students with less demanding courses. As the *Higher Still* reform extends these features across the whole range of upper secondary courses, such perceptions should disappear. In the meantime GSVQ at Level I may suffer from the perception that it caters mainly for students with Special Education Needs, which ignores the articulation with lower range Standard Grade achievements. Gender imbalance among candidates, the predominance of enrolments in Care and Hospitality, may also merit consideration.

In some schools GSVQs are related directly to the Higher Grade programme through strategies which present Level II as a bridge to Higher Grade presentation in the final school year (S6) and aim at the introduction of clusters of GSVQs at Level III as an alternative to Higher Grades. The existing Higher Grades may remain the benchmark until *Higher Still*, when both they and GSVQ will be integrated into the new framework.

Several universities now accept GSVQs as access qualifications for entry to degree courses, although most commonly as part of a portfolio of other qualification (Standard Grades, National Certificate Modules, Highers). Not surprisingly, admissions have tended to be granted for technological/vocational courses. SCOTVEC has supported this trend through seminars directed at access co-ordinators and specific subject departments.

The Labour Market Context

Whereas Scottish Vocational Qualifications (SVQs) were introduced in 1989 to provide a progressive framework of workplace-assessed qualifications relating to specific jobs, the training credentials of GSVQs are conditioned by their school-based and college-based context. Yet the steering groups which develop GSVQs have among their essential membership representatives of industry (if appropriate, employer and employee representative bodies, and industry lead bodies).

The inclusion in GSVQ design of core skills (Communication, Numeracy, Information Technology, Personal and Interpersonal Skills, Problem-Solving) is a response to the emphasis placed on them by employers, as well as by the Government and educationists.

In the first three years of GSVQ it seems that 70 per cent of GSVQ students continued to further education, as opposed to the 20 per cent who entered employment. There is anecdotal evidence of students finding permanent positions with placement employers, yet the difficulty of organising placements is cited by some schools as a major problem.

GSVQs and the Educational System

The Government presented GSVQs in Scotland as an important new link in the education framework. The harmonising decision to introduce Scotland's own version of the English qualification overtook over school-based vocational group awards which were being delivered in schools in the three major Regions. At least one of these authorities was reluctant to abandon the progress already made in favour of a new qualification which placed greater strains on school managers in respect of timetabling, placements and the complexity of the additional assessment. The development of GSVQs as part of the national framework may have served as a catalyst to the *Higher Still* reform, but it is likely that a distinction will emerge between those GSVQs which are delivered in schools (more broadly-based) and those which are particularly relevant to colleges (based on existing ones).

The moves in Scottish education towards group awards may be of long-lasting significance if they lead to a reduction in the range of individual courses available. As there is no formal obligation on school managers to offer a particular curriculum in the upper secondary school, the provision of a directed curriculum consisting of a choice between limited families of courses may eventually become an accepted norm, to the exclusion of individual choice.

It seems clear that it is the progression function of GSVQs which appeals to students, with Higher National Certificates and Diplomas (HNCs/HNDs) being the commonest next destination. A number of students have been accepted into these courses with Level II GSVQs plus additional modules, but there is a growing awareness among FE staff that GSVQ Level III is the benchmark award for entry to Higher National study. In view of the established nature of the Higher National courses, it is unlikely that GSVQs will be developed above Level III.

GSVQs and Local Networking

Every pupil is expected to undertake a period of work-experience before the end of his or her compulsory education, which is often the only work-related activity for many pupils before they attempt to find full-time employment. Enterprise clubs and school-industry links tend to be the preserve of senior pupils in the context of their pre-higher education programme. GSVQ work-placements offer a realistic structured work-experience with specific goals.

The role of GSVQs in fostering school-school or school-college partnerships is quite marked. Incentives offered by colleges to schools may include no-charge tuition, the provision of distance learning packages, and guaranteed access on completion of the GSVQ. Advantages are claimed for GSVQs delivered in this way; courses are future-orientated, a good preparation for the demands of further and higher education, and bring together the skills needed by students at these levels. SCOTVEC has sought to support these relationships by disseminating information on innovative practice through publications and seminars. Partnerships present logistic problems for the schools in particular, but have added benefits for the students by providing them with a foretaste of post-school opportunities.

Teacher Cooperation and Support for Teachers

Factors which may have resulted in an unenthusiastic reaction to GSVQs by teachers include:

- innovation fatigue;
- government policies aimed at making teachers more accountable;
- declining standards of living;
- possible job insecurity;
- additional demands on time of unit-based, internally-assessed qualifications;
- the imminent introduction of *Higher Still*;
- logistical problems in the delivery of GSVQs;
- difficulties in implementing the additional assessment.

In the pilot stages SCOTVEC had to exercise some persuasion to convince schools to take part. Among pilot institutions, however, teacher cooperation has been positive, and feedback exercises have led to generally welcomed changes to the system. Staff confidence in their ability to deliver more complex aspects of the courses, such as the merit grading, has been confirmed by monitoring questionnaires.

The provision of exemplar materials has been the most appreciated aspect of innovation support in recent years. This was initially carried through by Technical and Vocational Education Initiative (TVEI), which is at the end of its programme. The support for teachers formerly provided by Regions' advisory services has largely ceased since the transition to the new unitary local authorities this year. Schools, on

the other hand, have more control over the planning and delivery of in-service training than before, and can fix priorities within their development plans. As mentioned above, all colleges have offered practical support for partner schools in the delivery of GSVQs.

Qualifications, Flexibility of Student Programmes and Curriculum Development

The Scottish qualifications system from age 16 proceeds generally by increments of one year's study. Originally following on from the external school examinations which take place in S4, S5 and S6, this structure has been maintained as a national framework and now gives an appearance of lateral flexibility across the three main pathways of courses leading to qualifications assessed by the Scottish Examination Board, SCOT-VEC National Certificate Modules or Higher National units, and workplace-assessed SVQs.

GSVQs, designed to fit into this system, add further opportunities for students to construct portfolios of qualifications, particularly through the involvement of colleges which bring the possibility to study subjects not available in schools.

One of the forward-looking aspects of GSVQs has been the development of integrated assessment, where core skills can be assessed in the context of modules, which has led staff to collaborate more closely across subject areas. Also, the strongly expressed desire of schools to see credit transfer awarded in Communication and Numeracy for achievement in Scottish Examination Board examinations will be reflected in future developments.

The present increasing penetration of group awards throughout Scottish education and training is desirable in terms of focus, coherence, and practical considerations such as timetabling. As group awards become more established, however, there may be some reappraisal of traditional notions about breadth of subject-choice and the freedom of students to construct individual study programmes.

During the last thirty years the Swedish upper secondary education has moved from a dual school system to a comprehensive school followed by an academically and vocationally integrated upper secondary school. Specialized programmes have been replaced by a broad-based education that is believed to ensure better transition both to working life and to further education. Local authorities and the schools themselves now decide how to implement the curricula and allocate money.

The National Agency for Education (NAE) has replaced the former National Board of Education and the Regional Boards of Education. The main tasks of the new national authority involve national monitoring, developing and evaluating the educational system, supervision and inspection, and research and statistical follow-up. NAE has a central division in Stockholm and eleven regional divisions. Local authorities evaluate the development of local schools.

All 16- to 19-year-olds are offered a three-year upper secondary education that comprises sixteen national programmes or individually designed programmes. Each national programme is made up of core subjects, foundation subjects and optional courses. Eight common core subjects are compulsory to all students. It is possible to construct programmes specially adjusted to local conditions but such special programmes, too, must include the eight core subjects. Individualized programmes are offered in the form of school-based or apprenticeship training. Although a programme may be adapted to an individual student's needs, its contents must correspond to the three-year national upper secondary education.

A minimum of 15 per cent of teaching time is used on workplace training with a fixed syllabus. The aim is to help students gain new and advanced knowledge rather than to merely apply previously acquired knowledge.

As compared to Sweden's traditional centralized system of education, the new decentralized system and the students' increased freedom to choose among different programmes and foundation and optional courses is believed to lead to more varied results and learning outcomes.

The Swedish system of student assessment is going through a transitional phase as norm-referenced assessment is giving way to criterion-referenced assessment, first introduced in 1994. In addition, Swedish, English and Mathematics are also assessed by national tests twice a year.

There has been criticism both by academic and vocational teachers about the eight compulsory core subjects included in all programmes, vocational teachers thinking that too much time is being spent on general subjects while academic teachers feel, on the contrary, that a larger part of the syllabus should be given over to core subjects. Teachers are further concerned that the pupils are far from equally well prepared and motivated for general studies or able to pass the basic approval requirements. Cooperation between academic and vocational teachers has also proven less than easy. In general, obstacles, difficulties and resistance arise at the intersection between academic and vocational cultures. Workplace train-

ing has been hampered because it has been difficult to find enough enterprises willing to provide training according to the stipulated syllabus.

The Swedish contribution to the Post-16 Strategies Project will be a substudy investigating how far Swedish upper secondary school students are able to compose their own educational programme, what are the organisational conditions that shape their choices, what is the actual composition of the programmes and how the students themselves perceive the alternative choices available to them.

Another Change in the Upper Secondary School in Sweden

Göran Arnman

Swedish National Agency for Education, Lund

Introduction

Far-reaching reforms took place in the Swedish school system in the 1960s when the former "dual school system" came to an end. It was replaced by a comprehensive school for all children aged between 7 and 16 and an integrated upper secondary school (providing both academic and vocational education) for all young people at 16-19.

The Swedish educational system of that time was centralized. It was controlled by the state through financial means, by regulations and by national curricula. The private school sector has been very small until the beginning of the 1990s. Even in 1995 only about two per cent of the children of compulsory school age go to independent schools.

Schooling costs have been fairly evenly divided between the state and local authorities. When state subsidies were linked to the salaries of the teachers and the headmasters, there came also state regulations concerning school organisation, the number of pupils per class etc. Local authorities covered the costs of school buildings, teaching material, school meals, transport etc. The relevant national documents included the School/Education Act, the national curricula defining overall goals, the syllabuses for each school subject and the number of periods to be taught by teachers in different subjects and at different stages. The state prescribed how schools operated, e.g. the maximum number of pupils in each class and the teaching duties of all teachers. It also decided which municipalities and rural districts should have upper secondary schools and how many schools there would be in each district.

From the 1st of July 1991 the responsibilities have changed. The School Act and the new curricula are based on a division of responsibility where the state determines the overall goals and guidelines for school activity while local authorities are responsible for their implementation.

Each municipality or rural district (there are 288, the median population being around 14,000 inhabitants) has now a total responsibility for the running of its own schools. The state grant is given as a lump sum that covers all local services. Local authorities can decide how much money to spend on education versus e.g. the care of old people. They also decide about their school organisation, teacher salaries and the teaching time etc. Basic rules and regulations, though, are still established in the School Act (1991), passed by the Swedish Parliament (*Riksdag*).

Both the national curricula, first implemented in 1994/95, and the national subject syllabuses have changed in character. They are now rather brief documents

defining goals, objectives and guidelines, but they say nothing about teaching methods (Swedish National Agency for Education, 1995). The new documents specify two kinds of goals: goals "to strive for", meaning the long-term goals indicating the standard that the school must strive for, and the goals "to attain", i.e. the minimum levels that the pupils shall have attained at certain stages. In the compulsory school there are goals to be attained at the end of the 5th and the 9th school years, in the upper secondary school by the end of each course.

There is still a regulation concerning the number of periods for each subject taught, but it is now a time frame (one for the nine-year compulsory school and one for the three-year upper secondary school), giving the minimum number of teaching periods that each student is guaranteed during the nine or three years respectively of his or her schooling (Swedish National Agency for Education, 1996a and 1996b). The new national curricula are at present being implemented, which means that there are two systems running parallel. The old curricula will be abolished as from 1997/98.

The political control or supervision of the educational system is exercised through what may be characterized as a system based on management by objectives and results and quality control, with clear rules concerning the division of political and professional responsibility.

The local authorities and the schools are obliged to make out their own plans for the activities and the organisational means by which they intend to reach the national goals. They also have to follow and evaluate - to control - the quality of their schools and the teaching given in them.

It is becoming increasingly apparent that decentralization, giving local authorities the responsibility for and powers to plan education and the schools the opportunity (and obligation) to compete for pupils, now when there is greater chance to choose among schools and study programmes, will lead to greater variety and variation in results and student outcomes.

The National Agency for Education

The reform of 1991 also reorganized central administration. The former National Board of Education (NBE) and the Regional Boards of Education were replaced by one agency - the National Agency for Education (NAE). Among the tasks of the new authority national monitoring is stressed much more than before.

The NAE is responsible for overseeing and evaluating the educational system at the national level. Basically the NAE has to contribute to the national development of education. The local authorities are responsible for the schools and thus also for their development. At the same time, it is stated in the School Act that there must be national equity, meaning that each child shall have equal access to and receive an equivalent education, irrespective of in which urban or rural district or school this education is offered.

The work of the NAE is organized within five programmes and within the programmes in various projects. In another dimension the NAE is organized in two divisions: a central division situated in Stockholm and a regional division with eleven regional offices. The five programmes are:

- a development programme;
- a follow-up and statistics programme;
- an evaluation programme;
- a research programme;
- a supervisory or inspection programme.

The follow-up and statistics programme collects data for instance about the number of students attending different types of schools, the different types of costs etc., but also outcome data such as the marks awarded in the school-leaving certificates, the number of pupils/students who go on to upper secondary/university education etc. This information is presented in several reports each year, describing the current situation in each municipality or rural district in a quantitative form. In other words, it is an important part of the monitoring system.

Nationally Standardised Instruments

At present, then, two marking systems as well as two national assessment policies are overlapping each other. In the now disappearing norm-referenced marking system national, standardised tests have been administered yearly, both in compulsory and in upper secondary education. The NAE (before 1991 the NBE) is responsible for these tests, but they are prepared by departments of education at different Swedish universities. The tests have served to regulate the marks at school level so that, across the country, they represent a comparable level of achievement.

In compulsory education (7- to 16-year-olds) there have been tests in Swedish and Mathematics (in the 9th, final year) and in English (in the 8th year). In upper secondary education (16- to 19-year-olds) there have been national tests in Swedish (2nd or 3rd year), English, French, German (2nd year), Mathematics (3rd year), Physics and Chemistry (2nd year). The school year 1996/97 will be the last year for the norm-referenced marking system and the tests linked with it.

Instead of the norm-referenced marks, expressed as numbers (1-5, 5 being the highest), marks will now, with the new curricula, be criterion-referenced: G (passed), VG (good), MVG (excellent). If a pupil fails to get a mark (G/VG/MVG), there will be a comment in the compulsory school certificate together with a description of the pupil's achievement so that he or she can complete unfinished studies later on. In the upper secondary school the same applies: in case of a failure to pass there will be a comment in the school-leaving certificate saying that he or she has participated in a course, and the student may then try to complete it afterwards.

The criteria for awarding marks for each subject taught in the compulsory school and for the about 800 national courses taught in the upper secondary school have been determined by the NAE. Experts, mainly educational researchers and teachers in the different subjects, have taken part in working out the criteria. For example, when the criteria for the upper secondary school were developed, all upper-secondary-level teachers in one big local district were involved.

The criteria define the knowledge required for the G and VG levels in qualitative terms and describe how a pupil should perform by the end of each course. The implementation of the criteria started in 1994/95 and the process of consultation has

just begun. Many teachers have so far found it rather difficult to apply the criteria for many reasons, mainly because they find them too general and would like them to be more exact. They fear that the marks given by different teachers and by different schools will be less comparable than before. On the other hand, what has also happened is that there have been intense and concentrated discussions on the cognitive aspects of teaching (rather than on teaching methods). Since there is an obligation to work out both goals and criteria for the teaching at local schools, the consultation process is meant to be supported by the definition of these local criteria.

In upper secondary education the main subjects to be assessed by national tests are Swedish, English and Mathematics. The students can - within a specific study programme - choose various courses. Some courses are accumulative in the sense that they build on each other. This means that the students can take various courses at various times over the academic year. For this reason, starting from 1995 the national tests are conducted twice a year. To complement the marks that teachers give to their students there are centrally administered tests, related to the goals and objectives defined for education.

Evaluation

NAE's evaluation programme involves studies focusing on specific problems or aspects of education or the educational system. The aim is to make value statements about educational outcomes, but also to understand and explain them. For example, at present there are two projects examining the effects of the curriculum reforms carried out separately in the compulsory and in the upper secondary school.

Evaluation at the Local Level

As mentioned above, local authorities are obliged to evaluate and oversee the development of the local schools. Depending on the size of the municipal or rural district and of its resources, there are different implementation models. In some cases there are special staff to develop and carry through the monitoring, in other cases the local authority engages researchers or other experts. Smaller local authorities are rather dependent on the information available from the national level. Single urban or rural districts sometimes use national assessment instruments and the results of national tests for local monitoring. This is the reason why not only teachers but also headmasters and administrators are interested in the diagnostic or evaluative instruments developed by the NAE.

An Emphasis on Pupils' Choices

As early as in 1990/91, Parliament decided the main content of the reformed upper secondary school. The government bill (1990/91:85) preceding the formal decision stated that all 16- to 19-year-olds were to be offered a three-year upper secondary education of high quality in the form of sixteen national programmes or individual programmes (including specially designed programmes). Furthermore, it was stated that all 16- to 19-year-olds are entitled to upper secondary education and that the provision of upper secondary education is to be adjusted to the pupils' preferences, i.e. the emphasis was put on the pupils' own choices between programmes, branches, foundation courses and optional courses.

Core Subjects

The kind of upper-secondary education that was provided in the 1960s and 1970s, especially vocational training, is to be understood in relation to the differentiation taking place in the labour market. Many of the educational lines and especially the special courses offered within the former upper secondary school were narrow and very specialized. To meet the increased demands of the labour market and a greater emphasis put on communication skills, the Swedish upper secondary school has become less specialized and broader in construction. All young persons are assumed to need an upper secondary education of three years' duration, with more time given over to general subjects. The upper secondary school will constitute the base for transition both to working life and to further education. At present, local authorities and independent schools have more freedom to arrange education and more attention is being paid to pupils' choices and their opportunities to influence the composition of their upper secondary education. The National Curriculum for the Upper Secondary School (Lfo 94) made eight common core subjects compulsory to all pupils attending the sixteen national programmes. The compulsory core subjects are split into two courses built one on the other.

Foundation, Optional and Local Courses

Each national programme is, in addition to the core subjects, made up of foundation subjects and of optional courses specific to each programme (decided at a national level). Some foundation subjects are divided into courses with different levels. All national programmes also include optional courses. Finally, a subject decided at the school level (constituting a maximum of 10 per cent of the guaranteed teaching time) is chosen by the pupils.

Workplace Training

In addition to school-based teaching, optional courses included in vocationally oriented national programmes shall be taught at workplaces (a minimum of 15 per cent of the guaranteed teaching time). Workplace training is arranged on the basis of a fixed syllabus and should lead to the gaining of new knowledge rather than involve only the application of already acquired knowledge.

Local Programmes

As it is consistent with greater local freedom, the national programmes can also be adjusted to local conditions in the form of specially designed programmes. Such programmes must, however, cover the eight core subject to the same extent as the national programmes. The foundation is made up of a national programme with adjustments made for local conditions.

Individual Programmes

Individual arrangements are also offered to the pupils in the form of school-based individual programmes or apprenticeship programmes combined with studies in the core subjects. The structure of the programme depends on the needs of the student, but the content must correspond to three years' upper secondary schooling.

Comments

Pupils are expected to take active part in the composition of their upper secondary education, planning the content and structure of their education together with the teachers. As a consequence of the extension of the range of alternatives available in the reformed upper secondary school, there will be more variation in the outcomes of the upper secondary school.

New Conditions for Upper Secondary Schooling

The upper secondary school reform stipulates that eight core subjects are to be taught to all pupils irrespective of whether they are attending academically or vocationally

oriented programmes. The introduction of core subjects into all national programmes is felt to cause problems as teachers are of the opinion that pupils are differently well prepared and motivated for such studies. There has also been criticism of the educational goal of making all pupils attain the same level of competence in the eight core subjects. Doubts are expressed about whether pupils attending vocationally oriented programmes will pass the basic approval requirements. Teachers of vocational subjects maintain that too much time is being spent on general subjects at the expense of vocational training. The national curriculum for the upper secondary school specifies that teachers teaching parts of the same programme are to intensify their cooperation so as to facilitate the integration of theoretical and vocational knowledge. However, as the emphasis is put on separate courses instead of the totality of a programme, cooperation between the two groups of teachers has become complicated. Furthermore, 15 per cent of the teaching time guaranteed at the upper secondary level will be used on workplace training. This will have implications for the school as well as for working life. It has proven difficult to find enough enterprises willing to accept pupils for workplace training and to organize it in accordance with the stipulated syllabus. Another new condition with implications for upper secondary education is the increased freedom of both the pupils and the schools to combine and arrange various kinds of courses. A great variety of considerations and strategies lie behind the schools' arrangements of programme outlines and optional courses to be offered.

Teachers of general subjects argue that a larger part of the syllabus should be used for teaching core subjects as they feel that their pupils' general knowledge is very deficient. They also consider that this is a claim also being made by the representatives of the labour market. Universities, too, underline better theoretical knowledge in their entrance requirements. An opposite position is taken by the teachers of vocational subjects who claim that too little time is spent on vocational training, making it impossible to guarantee the basic vocational knowledge asked for by the labour market. The pupils' study strategies are partly the result of their plans for a future occupation while other important factors include personal interests, motivation and ability as measured by tests and marks.

The Swedish Substudy

The Swedish substudy will focus on the different educational profiles acquired by various groups of pupils at the end of the upper secondary school. In short, its aim is to investigate how far the students are able to compose their own educational programmes, the organisational conditions that shape their choices, the actual composition of the programmes and the conceptions that Swedish students have of the alternative choices available to them.

The themes will be studied within the following five subsections:

1. the organisational conditions shaping the students' possibilities of composing educational programmes of their own;
2. the possibilities that the students have to compose their own educational programmes regardless of their own field of study;
3. the actual composition of educational programmes among the students irrespective of study programme;

4. the nature of alternative choices available to students attending vocationally respectively academically oriented educational programmes;
5. an evaluation by a representative of working life of the reformed upper-secondary education with special reference to workplace-based training.

In Sweden, the study will be undertaken in the city of Helsingborg, situated close to Denmark. In 1995 the city had about 110,000 inhabitants. Commercial and economic life is varied. About 5,000 pupils attend five local upper secondary schools, which will all to some extent be included in the study. The degree of participation will be decided in cooperation with the administration of each school. A reference group will be selected at the municipal level, consisting of the headmaster of each secondary school and representatives of the local commercial and economic life. A second municipality, not yet chosen, will also participate in the study. The Swedish study will be carried out by Margareta Garpendahl, Per Bergdahl and Göran Arnman, all Directors of Education at the National Agency for Education. Göran Arnman will also function as the national contact person. A continuous exchange of experiences will take place between the participating local authorities and the representatives of the National Agency of Education.

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Notes on the Six Leonardo Themes

Göran Arnman

National Agency for Education, Lund

Reform and Parity of Esteem

The Swedish upper secondary school has an integrated structure, i.e. it provides both academic and vocational education.

Large variations in average marks are found among pupils applying for academic and vocational programmes and among students heading for different types of university education. The high correlation between school success and social background implies that entrance to different types of education varies according to social background. However, high average marks are required to enter certain vocational programmes, where there are a limited number of places.

Irrespective of academic or vocational programme, the pupils study the same eight core subjects which are the basic requirement for higher education.

In Sweden upper secondary schooling is not finished with a special examination.

When selecting students for higher education, in addition to the basic requirements the average mark is of crucial importance.

However, apart from the basic requirements comprising the eight core subjects, universities often require additional courses before admitting students.

Common entrance rules to higher education are under investigation.

The idea of establishing vocational university education has recently been given up.

Obstacles, difficulties and resistance arise in the integrated upper secondary school at the intersection between academic and vocational cultures. The Swedish project will highlight such experiences.

In spite of the fact that only a short time has passed since the implementation of the upper secondary school reform, many evaluations have already been made. However, too short a time has passed to reveal how the cultural differences between academic and vocational programmes have been affected by the reform.

Reform and the Labour Market Context

Within vocational programmes, workplace training has been introduced (constituting at least 15 per cent of teaching hours). The idea behind workplace training

is that pupils are both to master the knowledge taught at school and receive further preparation at the workplace as stipulated in the syllabus. Whether this will work out or not and whether it will strengthen vocational didactics will be investigated in the Swedish Project.

The national upper secondary school programmes have been elaborated and settled together with representatives of each sector.

Locally designed upper secondary programmes of three years' duration are also offered as well as courses adjusted to local circumstances and demands (specially designed programmes and local courses).

Optional courses with the aim of satisfying individual pupils' study plans are also offered.

Reforms and the Educational System

We see the following features as fruitful objects of comparisons:

- pupil distribution across educational programmes according to social background, sex and school success;

- selection criteria of higher education institutions;

- alternative forms of education at the same educational level and the relations between such alternatives;

- the value of different types of education in relation to further education and working life;

- streaming within upper secondary school programmes.

Social changes with implications for education:

- the situation at the labour market;

- structural changes;

- social policy;

- the public sector.

Changed conditions for education:

- the economy;

- decentralisation/organisation/deregulation;

- the new national curriculum;

- devolution of educational responsibilities.

In Sweden, large variations are found in the ways in which the new national curriculum for the upper secondary school has been implemented.

Reform and Local Networking/Linking Between Schools and Between Schools and Working Life to Find new Forms of Learning for Future Skills

The form of cooperation between school and working life within a programme is decided locally. There are large variations between programmes organized at the same school. Such variations are determined by local conditions. At some schools, private enterprises are responsible for the entire vocational training while the school is responsible for the teaching of the core subjects.

Cooperation between teachers in academic and vocational subjects is limited. At purely vocational schools such a cooperation is more frequent.

All pupils studying at the upper secondary level are instructed in the eight common core subjects. In addition to this pupils choose subjects specific to a programme as well as optional subjects.

Teacher Education/Cooperation in Support of the Reform

At present, academic and vocational teachers are trained separately. The difference between teacher training for academic and vocational programmes is profound, and attempts are being made to find common courses with the aim of decreasing the gap between the two categories of teachers.

Reform and Qualifications, Flexibility of Student Programmes and Curriculum Development

National-level labour-market representatives are involved in the curriculum process. General vocational abilities are preferred to excessively specialized vocational training. Local enterprises may also design special programmes and local courses which are related to local needs.

At present the design of Swedish upper secondary education allows the pupils to choose courses offered within both academic and vocational programmes as far as the timetable allows.

COMPARING THE SIX THEMES LINKED WITH
THE REFORMS AND STRATEGIES OF POST-16
EDUCATION FOR PARITY OF ESTEEM

Introduction

The data gathered in Parts II and III is intended as an outline of the status and contexts of initial vocational education in eight European nations and of the strategies adopted to improve the parity of esteem for initial vocational education. The following *six common themes* linked with post-16-education reforms and strategies were identified during the first meeting between the partners:

parity of esteem (indicators of attractiveness for academic/general and vocational education, exchange value of diplomas gained from general/academic education and vocational training);

the labour market context (matching VET provision to labour market needs, future skills, lifelong learning, core/key/transversal skills);

the educational system (reform priorities of national systems, system and structural vs. school and learning processes, models of implementing changes, static vs. dynamic strategies);

local networking/linking between schools and between schools and working life to find new forms of learning for future skills (developments in work-based learning, new study and learning methods, networking with working life and enterprises, regional development, integration of general education and various forms of specialization);

teacher education or/and teachers' co-operation supporting the reforms (models for academic and vocational teachers' collaboration, vocational education reforms and teachers' pre-service and in-service training, combining teacher education with the upper secondary school system) ; and

qualifications, flexibility of student programmes and curriculum development (study lines vs. study programmes, academic/general studies inside vocational education, core / key / process / transversal qualifications and the curriculum, labour market requirements and curriculum development).

During the second workshop (held in Edinburgh, Scotland) each theme was compared across and against the reforms implemented in the eight national education systems by partners working in country pairs. The paired partners each introduced and compared one theme to the other partners. The further elaboration of each theme was reported as conclusions drawn from the comparisons. Part III includes the conclusions.

Part IV presents the project team's conclusions concerning the strategies hypothetically identified and the six themes linked with the vocational education reforms analysed by the project, developed collaboratively for the second workshop. On the basis of the data gathered in Parts II and III and the outcomes of round-table discussions David Raffé articulated the project's hypothetical conclusions concerning the European post-16 strategies to improve the parity of esteem between initial vocational education and academic/general upper secondary education. At last, the measures planned for next phase of the project are presented.

Improving Parity of Esteem through Reforms

Matti Vesa Volanen

Institute for Educational Research
University of Jyväskylä

René Levrat

International Centre for Pedagogical Studies
Sèvres

The aim of our work is, as it is expressed in the title of the Post-16 Strategies project, to find "new strategies ... to improve the parity of esteem" within post-16 education in Europe. All the reforms of post-16 education represented in our project have this same target, but we can see at least four different pathways or strategies towards their shared objective:

1. *Modularization and open study programmes.* Higher Still in Scotland and Aiming Higher in England have the same starting point: as a result of earlier reforms, these countries have a system of four tracks in post-16 education: academic education, general vocational education (GNVQ/SNVQ), vocational education (NTQ/SVQ) and dropping-out. The next step is quite different in Scotland and England: in Scotland the aim is to form a very open modular system, in which there is no core curriculum or preselected programmes. In England the aim is to unify post-16 education on the basis of common core curriculum to prevent academic drift and the dissolution of vocational education.

2. *Integrated certificate.* In France and Austria used the social status of *Baccalauréat/Matura* has served as a way to solve the problem. In the social message implicit in the creation of such an integrated diploma/certificate the educational system indicates that vocational and academic education have the same formal status.

3. *An integrated structure for post-16 education.* In Sweden and Norway the problem of the relative esteem of different forms of education has found its solution at the structural level: all post-16 education takes place inside one system which, it is hoped, will give everyone equal educational opportunities. The problems of disparate levels of esteem present inside the system are seen as problems involving cultural traditions and pedagogy.

4. *Improving the quality of vocational education.* In the Brandenburg Reform Project the assumption is that "... parity of esteem is above all a question of the standard of vocational training. Consequently, in order to overcome the separation between general education and vocational training within the German educational system we must first improve vocational training." (See Bremer, p. 163.)

These approaches entail at least two problems:

Can we create parity of esteem by means of common core curriculum/key qualifications/process skills, not only by forming programmes with elements from academic and vocational education but by trying to develop contextual learning of a new kind, with more open learning environments, skills and knowledge? Or is it better to forget the whole issue and instead construct an open modular system, in which each unit/course solves the problem by combining both academic and vocational contents? Then we need not to worry about parity of esteem at the systemic level.

Is it better to start with a political message promulgating parity of esteem by creating a new certificate and then carrying out the reform or to start at the local level by linking and networking academic and vocational education, teachers, students and learning and creating new contents, which then form the basis of new certificates if they are needed?

If we analyse all the reforms represented in our project, at least one common feature seems to emerge: vocational education is apparently perceived in terms of three considerations: (1) its ability to compete with academic education; (2) the provision of some basic occupational skills; and (3) on-the-job training. Whether such a conception of post-16 education is appropriate is one main issues facing our project.

Labour Market Issues in the Eight Reforms

David Raffe

Centre for Educational Sociology
University of Edinburgh

Raimo Mäkinen

Institute for Educational Research
University of Jyväskylä

The reforms in the eight countries represented in the Post-16 Strategies project all address the relationship between vocational education or training (VET) and the labour market. In analysing their strategies we must recognise their different starting points. The eight countries vary with respect to:

the structure and organisation of the labour market itself: for example, the extent to which it is segmented on "occupational" or "internal" lines, the nature and extent of regulation, and the level of (un)employment;

existing links between VET and the labour market. In some countries, such as Germany, vocational training has close links with the labour market through the dual system. In other countries, such as Finland, vocational training is largely school-based: links with enterprises are weaker and there is little tradition of work-based or work-related learning;

whether the main force controlling VET is the state, the market, or collaborative arrangements involving schools and enterprises;

the way in which work defines the content and structure of the curriculum: in particular, the extent to which VET is occupationally-focused and derives its status and ethos from the occupations with which it is linked;

the extent to which "humanistic" education is identified exclusively with the academic tradition.

These features are related. In addition, there is variation within each country, across the different sectors and stages of the system.

It is not surprising, therefore, that the reforms address trends on the labour market, and links between VET and the labour market, in different ways. However, there are also several features which the reforms have in common. We may analyse these differences and similarities in relation to four principal dimensions.

Needs and Demands Arising From Labour-Market Trends

All of the reforms respond to, or anticipate, trends on the labour market and in the organisation of work. All respond to a perceived need for *qualitative* changes in the knowledge and competences which young people bring to the labour market. Changes in the content of work, in new technology, in patterns of occupational mobility and in the pace of change itself are seen to require increased adaptability, the capacity to learn new skills in the future, personal skills, transferable skills, and so on.

There is greater variation in the extent to which countries perceive a challenge in *quantitative* terms to produce higher levels of skills or increase the numbers achieving them. The reforms in Austria, England, France and Scotland aim to meet the need for higher skill levels by increasing participation and/or attainments in education and training.

Only the Finnish report identifies youth unemployment as a specific context of the current reforms, although in several others, including the English one, the context is shaped by youth unemployment and by earlier attempts to use training measures to deal with the problem.

For some of the reforms, including Norway, the needs of adults form a feature of the context.

The Influence of the Labour Market on the Reforms

Most of the reforms seek to enhance links between VET and the labour market, and to make VET more responsive to labour-market needs. This is pursued through networking with local enterprises, through the formal representation of industry in the machinery for designing curricula and qualifications, and in some systems by allowing greater responsiveness to local needs. In most countries, therefore, we can identify an attempt to increase the influence of the labour market *within* the reforms.

However, this is not the same as a labour-market influence *on* the reforms themselves. In most of the countries studied the main impetus to reform appears to be not pressure from the labour market, but internal pressures arising from the need to rationalise the educational system itself. This is most obviously true of the reforms in Norway, Scotland and Sweden, which aim to simplify their systems and make them more coherent through unifying or comprehensive reforms. It is also true of the reforms in England, Finland and France, which pursue rationalisation through linkages of various kinds rather than unification. We speculate that VET systems' responses to labour-market changes depend on whether and how these changes coincide with problems internal to VET itself.

This speculative analysis also suggests that the ways in which labour-market "needs" are mediated may have important effects on VET reforms. In this respect it may be useful to distinguish direct influences, for example when social partners are involved in planning curricula, and indirect influences when curriculum planners try to anticipate labour-market needs. VET curricula may respond to present labour-market demands, or to anticipated future labour-market needs. In some countries there is

a perceived tension between these two aims, respectively present-oriented and future-oriented.

Finally, in some countries (England, France) the labour market may have a perverse effect on education, reinforcing academic values or low participation.

The Curriculum, Breadth and Generic Skills

All the reforms seek to implement a broader notion of the curriculum. This is a universal theme, but there is considerable variation across the reforms in the particular emphasis and probably in the particular concepts of breadth (although the study does not allow us to document this in detail). For example, breadth may be understood primarily in terms of:

- less specialisation, and the grouping of occupations into broader areas for vocational study;

- a larger core of general study within the vocational curriculum;

- the inclusion of more theoretical as well as practical elements; and/or

- an increased emphasis on personal and social competences.

The concepts "key qualifications", "core skills", "transferable skills" and the like are found in most of the reforms, although the precise definition of these, and the role they play in the curriculum, varies. The French study notes the conservative influence of a subject-based curriculum, and the difficulty of winning acceptance for transversal competences in the curriculum.

Work-Based Learning

At least three benefits of work-based learning are recognised in several of the countries studied:

- enhanced student motivation (although the motivating effect of the workplace may vary across different categories of students);

- the pedagogical advantages of relating theoretical learning to practical experience (although the French study identifies different ways in which experience and theoretical education can be related to one another); and

- an up-to-date curriculum, based on current practice in the workplace (although the studies reveal potential problems arising from the variation in practice across workplaces, and a possible neglect of future issues).

Work-based learning plays a variable part in the eight reforms. It is central to the strategy of the Austrian, German and Norwegian reforms, which attempt to enhance the size and status of the work-based route. The French and Swedish reforms also aim to boost work-based provision. It plays a more marginal role in the Finnish and English reforms, and risks being marginalised by the reform in Scotland.

Networking between Schools and Working Life to Find New Forms of Learning for Future Skills

Michael Young

Post-16 Education Centre
Institute of Education
University of London

Rainer Bremer

Institute for Technology and Education
University of Bremen

Introduction

All countries represented in the Post-16 Strategies Project are undergoing considerable change towards greater local flexibility, less separation between general and vocational learning, and new efforts to develop school-employer links. This is a theme which is much influenced by the great differences in the traditions and approaches of different countries. These traditions vary on two main axes:

those countries which have had centralized forms of administration (e.g. France and Finland) and those in which there has been a tradition of considerable local innovation (e.g. England); and

those countries which have involved employers in vocational education (e.g. Austria and England) and those in which vocational education has been provided through the school system (Finland).

With the common trends and major historical differences in mind, the list of issues raised by the partner countries were as follows:

1. New forms of local organisation
local collaboration between different types of schools and colleges,
local collaboration between schools/colleges and employers;
2. New opportunities for students to gain experience of working life;
3. New opportunities for combining vocational and general education;
4. Possibilities for the development of more future-oriented skills and knowledge.

New Forms of Local Organisation

Links between Local Schools and Colleges

Nearly all the partners reported increases in local networking between schools and colleges. For Finland local networking between grammar and vocational schools has been the major strategy of the recent upper secondary school experiments. These have been designed to increase student choice, encourage them to mix subjects across the academic/vocational divide and take more responsibility for their own learning decisions. There have also been examples where the teachers in several schools decided on a common theme in consultation with students and developed an interdisciplinary programme. The most innovative examples were a project involving designing, building and decorating a house and a forestry development aid programme in Zambia. There were also examples of school-college collaboration over teaching practice in Norway, and in the considerable autonomy given to individual schools in Sweden to collaborate (though little use was made of it in forms of collaboration between general and vocational teachers). In Austria, plans are afoot for networks of vocational schools with companies and training schools and centres and more school-college collaboration is anticipated as a result of the reforms currently under development. In England there is a long tradition of local autonomy and innovation and examples of institutional collaboration and consortia designed to increase student choices that go back to the 1980s. In some cases a group of schools and colleges have been able to appoint a full-time coordinator, and in Devon 13 schools and 3 colleges have a two-days-a-week common timetable. However, in both Scotland and England local networking is being threatened by funding mechanisms which force institutions to compete for students.

Examples of local collaboration between schools are invariably reported positively - though in Finland more by the students than by the teachers (Arnman, Kutscha & Young, 1995). In Scotland there are concerns that the planned reforms may lead to greater differentiation and inequalities where institutions develop more specialist curricula in ways that reflect the social composition of their intakes. French developments need to be seen within the overall attempt to decentralize decision-making and give power to local School Boards in what has been a highly centralised system.

Local Collaboration between Schools/Colleges and Employers

A number of the partners reported increases in school-employer links though the form they took varied. Obviously such links are integral to the Austrian and German dual systems and some extension of collaboration of this kind to the compulsory school system was reported. The Austrian partners stressed that such links are valuable for teachers as a chance to update their specialist vocational knowledge and that vocational schools were often located very near to enterprises and technology centres. Austria represents the almost polar opposite case to Finland - the former emphasising what the schools could learn from the enterprises whereas in Finland it is enterprises that are seen to have things to learn from schools. In Sweden a great degree of local variation is reported with private companies being responsible for all vocational training in a school in some cases.

France reported many attempts to build employer-school links. The French experience was different from both the Finnish and the Austrian one; it emphasised the mutual benefit of links for both parties. Schools gained real work tasks for their students, opportunities for the professional updating of their teachers, some extra cash and an improved public image. Small and medium enterprises (SMEs) benefited from

an exchange of expertise between them and the schools which also helped them to pay the costs of R & D, always a problem for SMEs.

England typically is a unique case; a strong tradition of various types of education-business partnerships developed in the 1980s. In colleges this meant employers providing work experience and being involved in curriculum design for vocational courses as well as some college-based youth training. By the end of the 1980s these links became more employer-led under the influence of American models (Training and Enterprise Councils (TECs) and Education Business Partnerships (EBPs)) which invariably assume that "business knows best". However, with cuts in overall funds and the end of most funding targeted specifically to finance school-industry links, schools have begun to give these links a lower priority; for the colleges this trend has been compounded by the new general vocational qualifications which are explicitly designed not to need employer links. The German partners reported new examples of school-employer collaboration. However, as this was related to a specific curriculum goal, as discussed below.

The one country that has a school system with little direct connections with employers is Finland (they are more likely to establish a restaurant in a school than send students into a private restaurant for work experience!). It is a successful vocational education tradition that make plural innovations moving from school to working life through the preparation of skilled workers with high levels of scientific knowledge. There is no assumption, common in some other countries, that schools have much to learn from working life - more likely the opposite.

New Opportunities for Students to Gain Experience of Working Life

There is no doubt that in most countries, the educational advantages of young people having some experience of working life while they are still students is widely recognised. Austria plans to introduce work experience for Year 9 students on prevocational courses while in France and England 1-3 weeks' work experience is now compulsory for all students, with 16-22 weeks required for those taking a Vocational Baccalaureate in France, nor is work experience precluded even for students on the traditional General Baccalaureate. The problem in England is that though work experience is invariably popular with students, it equally invariably has no direct link with the curriculum; furthermore, such curriculum links that did exist are disappearing as a result of redesigned vocational qualifications. The new general vocational qualifications do not need work experience and NVQs and Youth Training are designed to be able to exclude colleges.

New Kinds of Opportunities for Combining Vocational and General Education

Developing ways of bringing general and vocational education together is a common policy across nearly all of the partner countries. In Sweden this is expressed in the idea of a core of general education combined with any form of specialisation, whether academic or vocational, which applies to all upper secondary school students. In Finland the upper secondary school experiments were explicitly intended to encourage students to mix general and vocational education. In Scotland the *Higher Still* reforms are designed to extend student choice of general and vocational education modules; providing a wide range of modules will undoubtedly be one of the priorities of local collaboration as it is clear that few if any institutions will be able to offer a complete range of general and vocational modules. As mentioned in a previous section, the possibility of schools and colleges developing more specialist curricula is causing some concern as is the position of students who live on the islands where there cannot be wide choices. In England the messages are ambiguous. The most recent government-inspired report proposes a new Diploma that encourages general and vocational education combinations; at the same time the report recommends that general and vocational education programmes should be more not less distinct.

The German partners reported a new approach to combining general and vocational education within their dual system. The German dual system has traditionally been based on combining vocational education in both schools and enterprises but keeping it strictly separated from general education. The new approach tries to extend the existing structure by developing general education from a combination of work-based and school-based education. This is designed to encourage the development of key competencies and qualifications within vocational education so that it becomes the basis for preparing young people for future studies as well as for work (and hence it becomes a form of general education). If general education is to be an outcome of vocational education, this will depend on well-designed collaboration between schools and enterprises. Furthermore, if there is to be genuine parity of esteem improved forms of integration of general and vocational education, school- and work-based education have to share similar curriculum and pedagogic principles.

Opportunities for Developing Future Skills

Although no doubt implicit in all the contributions, only three partner countries, England, Germany and France, discussed this question explicitly. As in so many of the educational debates in England, the argument about future skills is socially divisive. Employer organisations such as the CBI (Confederation of British Industry) as well as the recent Dearing Report stress the basic skills of number, communication and information technology; these are essentially remedial and reflect the close association between the debate about skills and the problems of low achievement. The focus on high-level intellectual skills of the future is still a largely academic debate among social scientists and some management theorists.

The German project to develop general education through vocational education involves an attempt, since 1987, to reform vocational education for industrial occupations. Within the German dual system the idea of future skills (or key qualifications) was given priority, at least in the aims of the programme. The idea was that work-based and school-based learning should become independent of specific technologies and that the emphasis should be placed on the development of occupational tasks rather than on just carrying them out. As a result, the ability to "learn how to learn" becomes an increasingly important aspect of individual capability. As vocational education develops in this way, it takes on some of the aims of general education and reflects one way of responding to the challenge of developing future skills. What distinguishes the way in which the development of future skills is conceptualised within the German system is that it is not an attempt to bridge the separate systems of general and vocational education; it is an approach which develops general education within the structure of the vocational education system.

The English partners suggest the need for a new collaborative framework for developing high-skill partnerships of the kind associated with what were called the Occupational Capability (OCCAP) Projects which collapsed through lack of funds in 1991. The OCCAP Projects developed joint skill audits and skill development plans in partnerships between colleges and key employers around the future market and the product niche of the company. One example of an OCCAP Project was based on Champion Spark Plugs and Wirral College; Champion began the audit by recognising that by the year 2000, cars would not have spark plugs and Champion would have to find new ways of putting their expertise in electronics and ceramics to work.

The French partners looked at future skills from the point of view of a number of different ways of linking theory and practice in vocational education. They start with the idea of "alternance" and suggest that initial vocational training at work can be combined with:

- deductive knowledge (or science and technology) which is then applied at work (the traditional approach);

- an inductive approach which is workplace-centred and where the whole curriculum is based on workplace requirements;

- an integrative approach where practical and theoretical knowledge are brought together dialectically.

An observation from the English experience of trying to develop a post-16 technology curriculum is that the inductive approach is extremely problematic because the new workplace technologies can make very 'promiscuous' curriculum demands. A good example is the widening range of technologies that involve laser optics (not something that even physics undergraduates find easy to understand!).

The German model, with its long tradition of a dual system, indicates that any attempt to combine general and vocational education is likely to face severe problems. What do teachers really know about working life? What should be the criteria for selecting appropriate experiences of working life? Should working-life experience be seen as an end in itself (to understand more about work) or should it be seen as a way of gaining an insight into the practical relevance of the subjects of general education? General approaches to reforms which attempt to combine general and vocational education are often based on giving students some experiences of working life rather than on giving them the experience of "real" vocational education. However, as the Finnish paper reports, those responsible for on-the-job-training are likely to lack

pedagogic skills. A further problem as suggested in the English case is that work-based learning may not be accredited within general education.

Conclusions

Networking among schools and colleges and between schools and enterprises and the development of future skills take different forms in different national systems. The sharpest differences are between the work-based vocational education found in Austria and Germany and the school-based systems. Whereas the former build on existing vocational education to develop new more general skills, the latter reflect various attempts to enhance vocational education through integration with elements from the general education system. Several questions remain to be answered. Firstly, what is the relation between such new more process-based forms of general education as "the development of future skills" and the traditional knowledge-based models of general education expressed in "access to the humanities and sciences"? Secondly, will the student of the future combine academic and vocational learning in a unified system, or do these different traditions, as seems to be suggested by the German partners, represent more fundamental differences of purpose? Finally, do both forms of general education still retain the distinction between the production and reproduction of knowledge rather than adopting the idea that in the process of learning students produce knowledgeability and therefore knowledge, thus breaking down the old division between learning and discovery?

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Flexibility in Post-16-Education and Curriculum Development

Göran Arnman

National Agency for Education, Lund

Anne Lazar

National Institute for Pedagogical Research, Paris

A country's school system reflects its social structure. In countries with pronounced social differences, even compulsory schooling is divided into distinctive educational routes populated by different social groups of pupils. Limited linkages between different educational routes are common in such school systems.

Secondly, pupils are divided into teaching groups according to their own choices of optional subjects or of levels taught in specific subjects. As the comprehensiveness and content of optional courses and levels vary, the acquired competences differ between pupils. As a consequence, pupils are differently prepared for subsequent educational choices at the upper secondary level. Selection criteria might consist of school success in combination with pupils' previous choices of optional subjects and course levels.

Consequently, European countries display much variation in the ways in which they prepare pupils for the division between different types of education that takes place after sixteen. The preconditions for flexible solutions differ between countries where pupils are divided into different educational routes at an early age and countries with a comprehensive integrated school system at the primary and secondary level.

Like Finland, four countries - France, Germany, Austria and Norway - say that they started their experiments because of a general expectation of labour market changes that would require new competencies and a better qualified labour force in the future. It is crucial to ensure that curricula are developed so as to ensure their correspondence with specific labour market requirements.

Several changes taking place in the various countries are described. The countries speak about the application of a broad concept of knowledge covering the development of knowledge and skills, that is, ethical values and attitudes, personal qualities, social competencies, entrepreneurial skills, communication; in Norway and France internationalisation, environmental issues and computer technology are also included.

Germany and Austria aim to increase flexibility by developing relevant aspects of Mathematics and languages. Interdisciplinary education integrates such subjects as languages and management competencies.

In Scotland, the *Higher Still* curriculum will be an elective and portfolio system: students may select courses and options at each level of their studies. One of the aims of *Higher Still* is to develop the students' competence in the core skills of communication, numeracy, information technology, personal and interpersonal skills.

New contents and new teaching methods are introduced to serve these different reform aims. In Finland the central change involved reducing the number of qualifications and developing vocational curricula rebuilt to provide broad-ranging vocational skills and making possible the local-level development of individual curricula. In Sweden, local courses are developed in cooperation with local enterprises, which design special programmes and courses. In France the *baccalaureat professionnel* is a compromise between the two systems, the labour market and education.

In Austria, component exams within the system of occupations are organised into a modular system, while in England the flexibility of the curriculum may be increased through a mixture of modularisation and short courses and a credit-weighting system that would encourage students to mix levels of study. The general expectations of the labour market are perceived to provide an opportunity for combining academic and vocational qualifications within individual study programmes and the current qualification system.

General academic studies provided as part of vocational studies may be reformed by means of core skills / key competencies / interdisciplinary knowledge to serve new qualifications and new curricula. But two questions concerning these reforms remain:

1. How is such knowledge to be taught in practice?
2. How are we to encourage epistemological and didactic reflection - at present still underdeveloped? We must question the status of vocational knowledge, a status dependent on how the knowledge linked with different occupations is taught and learned.

There is a tendency for specific and high demands of admission requirements to lead to isolation in relation to other forms of education. This is an important reason to investigate and analyse admission requirements and selection criteria of different types of post-16 education. School systems which emphasize selection criteria such as school success and specific abilities (with a high correlation to pupils' social and economic background) are often characterized by distinct educational routes at the upper secondary level.

In many European countries upper secondary education is reorganized into modular systems. In this connection it is important to clarify the different requirements linked with the choice of modules. Does it involve compulsory requirements? It may be supposed that pronounced requirement criteria lead to less flexibility of choice.

The rigid timetables characterizing various educational tracks is another crucial aspect to be considered. The number of compulsory school hours allocated to different subjects in relation to the number of school hours open to pupils' individual choices as well as the possibilities of combining choices from different educational routes are of great importance.

Another aspect to be considered in relation to flexibility in post-16 education is whether the choice of a module facilitates the study of subsequent modules or whether the elected module is a blind alley within a specific area. A blind alley or a brick in a continuous module system might interest and attract less pupils.

The demands of end-users are another decisive factor determining the flexibility of a school system. The admission requirements of universities and other tertiary education institutions greatly affect pupils' educational choices at the primary and secondary level. Admission requirements vary between universities and other higher educational institutions. Their specific entrance requirements limit the pupils' freedom to choose optional subjects and courses (modules) at preceding educational levels. With regard to vocational education, demands concerning quality and content are often formulated in part by representatives of working life, with consequences for pupils' educational choices at lower levels. The interrelation is especially pronounced in countries with a separate and independent vocational education system. The degree of flexibility within forms of vocational education is often decided at the local level. The influence of working life on qualification criteria is also more pronounced in countries with markedly dual educational systems.

The above-mentioned aspects of post-16 education are differently constructed in all eight countries involved in the Post-16 Strategies Project. However, there is one common trend, namely making vocational education more academic in content. New courses are introduced and tracks are split up into modules which increase the number of optional courses offered to the pupils. Variety, freedom of choice and flexibility are increasing. In many countries, the situation is being evaluated to find out whether these changes impose the quality of education for all pupils or whether they favour some groups of pupils while others are disadvantaged by them.

Many questions are still to be answered regarding the interrelations between the different aspects mentioned above. It is still an open question whether and to what extent the recent changes are of importance for vocational education. The cultural gap which is made visible in an educational system switching from a strategy of combining academic and vocational education (often at the terms of the academic education) differs from that made visible in an educational system aiming to strengthen independent vocational education when the degree of flexibility increases.

Teacher Education and Teacher Cooperation and Collaboration in Support of Reform

Maarit Virolainen

Institute for Educational Research
University of Jyväskylä

Kjell Andersen

Ove Sandvik

Agder College, Kristiansand

How to Involve Teachers in a Reform?

Teachers should carry out the aims of educational reforms in the education they give their students. The successful carrying out a reform depends very much on their understanding of and the stances that they adopt towards it. However, typically the partners of the Post-16 Strategies Project note, along with the issues they bring up, that too little attention is being paid to finding ways of making teachers part of the reform. Also, the forms of action for which teachers are asked to contribute vary from reform to reform. Different reform strategies for reaching a parity of esteem between vocational and general education may make very different demands on teacher cooperation and on integrating teacher collaboration into the reform process. In addition, comparison is problematic when the reforms to be compared are, inevitably, at different stages of their planning, implementation and evaluation process.

A reading of the papers of the Post-16 Strategies Project suggests that it might be useful to make a distinction between the terms "teacher cooperation" and "teacher collaboration". Hereafter this paper discusses teacher collaboration as referring to how teachers organize such aspects of their work as teaching methods, assessment and the horizontal division of labour between teachers that implementing a curriculum involves. Teacher cooperation, again, refers to top-down bodies and programmes led and organized by governments with the aim of encouraging teacher collaboration and otherwise involving teachers in reform measures. In other words, teacher cooperation presupposes administrative measures from above. The two dimensions may be confluent.

The next section of this paper goes through the links obtaining between the four strategies and teacher cooperation and collaboration in relation to the issues brought up by the partners. Such links can be discussed under two sub-themes which may be interconnected (or overlapping) if the staff development programmes of educational institutions are planned to intertwine with teachers' further education. The two sub-themes and related issues are:

The education of general and vocational teachers:

initial teacher education and the provision of teachers' qualifications along separate/integrated pathways of academic/theoretical knowledge, vocational competence and implementation skills;

further education, professional development programmes.

The practical collaboration between general and vocational teachers :

effects of reforms on working conditions (innovation fatigue);

teacher's acceptance of reform objectives and goals;

staff development programmes, in-service training opportunities;

teacher collaboration across the vocational/academic divide.

It must be noted here that this paper should not be read without recourse to the national and other papers presented as part of the Leonardo Project on Post-16 Strategies. Furthermore, questions of teachers' cooperation and collaboration are linked with problems involved in implementing educational reforms, which have not been the major concern of the project. Therefore a full discussion of the subject cannot be attempted in this context.

The Four Strategies and Teacher Cooperation and Collaboration

Our brief did not include any systematic presentation of the themes related to teacher cooperation/collaboration in reform, but it may still be interesting to see whether reforms linked with different strategies have raised any similar questions. Accordingly, in the following we will go through the national reports looking for connective sub-themes brought up by representatives of the same strategies.

The strategy of vocational enhancement reinforces the distinctiveness of vocational education. Both the Austrian and the German partners' reforms falling into this category reveal an as yet limited integration of teachers. The Austrian partners room for improvement as regards both those aspects that arise from teacher education and practical collaboration. In the German *Brandenburger Modellversuch*, collaboration between teachers of different subjects, vocational and academic, has been developed step by step.

The Finnish and Norwegian reforms aim to enrich both vocational and general education by exploiting the best features of each tradition while still preserving their distinct identities. The projects share a demand for teacher cooperation across vocational/academic boundaries. Agder College's combined teacher education experiment is the only reform to involve initial teacher education that has been presented in this project. In-service training programmes are part of the practical implementation of the Finnish reform. Both examples of enrichment have collaborative and cooperative elements.

The strategy of linkages concentrates on equalising the formal status of vocational and academic pathways by introducing linkages between vocational and academic certification and curricula. Examples of linkages strategy, the Dearing

proposals in England and Wales and the French Vocational Baccalaureate, seem to demand most from staff development programmes in comparison with the other strategies. Of course, this may be due to the broad and decentralised nature of the educational systems drawing on this particular strategy. Both strategies include plans for teacher cooperation. This notwithstanding, the French partners also report the existence of teachers' collaborative projects across subject boundaries.

The unification strategy represented by the Scottish (*Higher Still*) and Swedish partners' reforms aims at combining vocational and general education through the establishment of a unified system which integrates both traditions into one curriculum. A common feature of the two reforms seems to be that they bring into focus questions concerning teacher categories and their separate educational pathways. Both reforms have programmes for teacher cooperation.

In conclusion it must be said that even though there seems to be some differences between the four strategies as regards their relation to teachers, it is impossible to draw any very definitive inferences because of the different ways in which the national reports have been drafted.

Cooperation in Initial and In-Service Teacher Education

Another look at the variety of issues discussed by the partners raises questions about how teacher collaboration/cooperation might be promoted more effectively by paying attention to it at different stages of a teacher's career. The only example here of teacher collaboration in initial education, the experiment initiated by Agder College, reminds us that during their initial training teachers might be provided with both conceptual tools for understanding the nature of educational reforms and models for collaboration. (The Norwegian pilot project is explained more fully in the last chapter.) Furthermore, the Swedish and Scottish reforms take into consideration the problem of differentiated pathways for academic and vocational teachers: might the further education of teachers be organized so as to create a parity between these separate forms of training? All in all the model for organizing teacher cooperation into a programme mentioned by the English and Welsh partners, a programme for teacher appraisal linked firmly to professional development, should be fruitful provided that such programmes keep in mind the themes related to raising the quality of teachers' working conditions.

Conclusions

The Scottish and French papers mention innovation fatigue as a factor affecting the teachers' willingness to cooperate in reform projects. This may be a more widespread phenomenon caused by constant changes in working life generally and by recurrent reforms in the educational field. Research on job insecurity has underlined the importance of information in fighting the negative effects of the insecurity that changes arouse in working life (Hartley et al., 1991; Nätti et al., 1995). Comparative studies of changes in industrial organizations have shown that organizational change

met least resistance in cases where those in charge had adopted a long-term approach to securing on-going change embraced and that to succeed organizational changes should also lead to an improvement in the quality of work (Hogarth, 1993). A recent review has also pointed out that teacher commitment may be increased more effectively by giving room for participation, collaboration and feedback than by making use of differential incentives like merit pay and career ladders as such (Firestone & Pennel, 1993). Therefore, in looking for parity of esteem we should welcome programmes that increase teacher participation and collaboration across vocational/academic boundaries through consultation processes and the joint organization of further teacher training as an essential aspect of planning, implementing and evaluating the reforms. The reforms presented during the Post-16 Strategies Project have paid attention to such considerations but both in initial teacher training and in in-service training or staff development programmes more might still be done.

Training Upper Secondary School Teachers: The Combined Initial Teacher Education Experiment of Agder College as a Contribution to the Post-16 Project

There are two types of postgraduate education for upper secondary school teachers in Norway, one for students who are qualified for teaching academic/general subjects, and another for teachers qualified for vocational subjects. Both are one-year courses if studied full-time.

A teacher of academic/general subjects must qualify through university or college studies. A bachelor's degree is a minimum qualification; many teachers have a master's degree. A teacher of vocational subjects needs a craft certificate or equivalent and a minimum of five years of vocational practice in addition to two years of vocational/theoretical education. The two categories of teachers gain their qualifications through two separate courses of studies undertaken in separate environments.

We must bear in mind the situation in the former upper secondary school, which was divided in one school for academic and another for vocational education. Traditionally academic studies, and the teachers responsible for them, were held in a very high esteem among the population, while vocational education, and the teachers entrusted with it, were far behind the others in status.

The new upper secondary school that emerged after *Reform -94* is a comprehensive school, and in vocational studies, especially at the Foundation Course level, the students are to spend approximately 26 per cent of their school time on theoretical subjects. In these subjects the students will be instructed by teachers with an academic background, while in vocational subjects they are taught by teachers with a vocational background. This means that a far stronger emphasis than before is laid on the teachers' ability and willingness to cooperate and engage in teamwork. We are of the opinion that Norwegian teachers, because of their separate education mentioned above, are poorly prepared for the new teaching and working conditions prevailing in the new upper secondary school, particularly when it comes to interdisciplinary project work, a highly esteemed pedagogical approach to learning in the new curricula designed after the reform.

We assume that teachers will be better able to cope with the demands laid down in new curricula if they have an opportunity to meet, study and work together before they are to start their work as teachers. By these means we hope to overcome some of the barriers between the two cultures that the two groups of teachers represent, at the same time giving them a better preparation for the collaborative work that they are expected to do. We also think that this might contribute towards equalising the parity of esteem between academic and vocational education.

These are the main reasons why we are trying to combine the education and training of the two teacher groups at Agder College.

The two categories of teachers will spend the first half of their part-time studies together. The main content of this first year is a common curriculum in general pedagogics and didactics. Their supervised school practice will take place in groups, with both teacher categories represented in each group. They will also carry out an interdisciplinary project in groups. A curriculum for this shared phase of teacher education will be presented to the Leonardo Project.

In the second half of their part-time studies the students will be divided into two groups, with those studying to become academic teachers in one group and those aiming to qualify for vocational teaching posts in the other. This is because for this stage of teacher education there are separate national curricula for each of the two categories of teachers.

We think that the reform of the Norwegian upper secondary school itself will help to equalise the parity of esteem between academic and vocational education and that combined initial teacher education will strengthen this tendency. We are of the opinion that it is a condition for a successful outcome of a reform in the school system that the teachers are well prepared for the new practical and pedagogical demands that the reform implies, that they are well informed about the basic ideas behind the reform, and that they are able to assume a positive attitude both towards themselves as groups, regardless of background, and to the changes reshaping the educational system.

We feel strongly that part of the reason for the lack of a parity of esteem between academic/general and vocational education stems from the teachers' own attitudes towards each other as groups and towards the educational pathways that they represent. We think that a form of teacher education that brings these two teacher groups together has a fair prospect of breaking down the negative attitudes and uncertainties that have traditionally coloured their relationship. Collaboration in a shared teacher training environment helps them to learn to know each other as persons and to acquire an understanding of their respective educational and vocational backgrounds.

We hope that such combined teacher education will give us a reasonable chance of building up mutual respect and more positive attitudes. If we succeed in this, the attitudes and knowledge gained by these teachers-to-be through their training may generate a general parity of esteem within the educational system, and thus also convert public opinion to an equal regard of academic and vocational education.

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Reforms and Their Influence on Educational Systems

Barbara Birke

Institute for Industrial Sciences
Vienna University of Economics

Ken Spours

Post-16 Education Centre
Institute of Education
University of London

Three Key Questions

1. What are the key issues and educational-system problems that the reforms are trying to solve in each of the partner countries?
2. What is the range of strategies which are being deployed and how might they be described and classified?
3. What kind of effect will these have upon educational systems as a whole and the direction of their development?

Key Issues and Problems in Educational Systems

Each of the partner countries have in their six themes identified key system issues which the reforms are seeking to resolve.

In the Austrian and German cases, which can be regarded as representing similar systems, the main problem identified is building bridges and overcoming the separation between vocational training and general education, particularly in relation to education for the professions and for university.

In the English case, the main aim is to raise the quality of post-compulsory participation and qualification outcomes by strengthening vocational education and vocational progression paths to higher education and creating broader linkages between academic and vocational learning. This has also been the case in France, but the strategy applied there is clearer and more advanced. It involves 80 per cent of young people attaining the Baccalaureate level, partly through the vocational route. The main Scottish aims are slightly different, Scotland already having higher participation and attainment rates than England. The goal is to resolve problems of the school-based system, the low status of vocational education and the association of the work-based route with low achievers.

In the Swedish case, the main problem appears to be how the upper-secondary experiments are working in relation to general and vocational education and the effect of social backgrounds in determining what students select to do. The issue of student choice and combining academic and vocational studies seems to be the main concern in the Finnish system, too. The main aim of the Norwegian reforms is to create a broader and more flexible curriculum within a comprehensive structure for future needs.

The first conclusion is that the relationship between the respective reform aims and the national education systems appear to be very much linked either to the particular national histories and/or the type of system they represent.

The German-speaking countries with their strong dual-system training traditions appear to be trying to enhance and broaden the vocational route by building bridges that link it with general education either by the provision of new qualifications leading to vocational higher education (Austria) or by the inclusion of vocational subjects in general education (Germany).

Those countries that have undertaken institutional reform (e.g. Norway and Sweden) are concerned either about the nature of student choices and/or the capacity of teachers in the new situation. The Finnish strategy of "mutual enrichment" between academic and vocational education is also based on student choice and the ways in which new learner-centred pedagogues can be developed in both general and vocational education.

Scotland, England and France have had somewhat common concerns about the status and role of vocational education in relation to participation and achievement but are tackling this in different ways. The Scots have taken a "unification" route whereas the English and French are exploring linkage strategies. In the English case, though, this could become a fuller unification strategy whereas the French approach is through the development of different types of Baccalaureates with some common content.

The Range of Change Instruments Being Used

Table III-1 below illustrates that there are different types of reform instruments being used by the different partner countries.

Table III-1.

The Reform Instruments Used in Eight Educational Systems

Country	Focus of reforms								
	Change in the system/new systems	Partially new systems	New qualifications/grades	Unification of system	Flexibility of student choices	Modularisation of programmes	Implementation of strategy/reform bottom up/top down	Centralisation/decentralisation of educational system	Improvement of permeability of VE to HE as a main goal of the reform
A	yes/no	yes	yes	no	no	no	td	dec./no change	yes
E	yes	yes	yes	yes	yes	no	td	voluntarism	
FIN	yes	yes	yes	yes	yes	yes	td	dec.	yes
F	yes	yes	yes	no	yes	no	td	no change	yes
G	no	no	yes	no	no	no	bu	no change	yes
N	yes	yes	yes	no	yes	no	td	no change	
SC	yes	yes	yes	yes	yes	yes	td	no change	
SVE	yes	yes	yes	yes	yes	yes	bu	dec.	

bu = bottom up

td = top down

dec. = decentralisation

HE = higher education

VE = vocational education

Reflection on the partners' theme papers leads to a number of key questions in relation to each of the reform processes.

Whole-system reforms or part-system reforms - which parts of the system are being reformed and what is the extent of whole-system effect?

The role of new qualifications - what kind of new qualifications and do they produce changes in both general and vocational qualifications or are the changes limited to vocational qualifications?

Unification - how is unification defined and does it have pre-unification stages, e.g. linkages?

The role of student choice - how central is the role of student choice in determining relationships within the system and are these "engineered" in any way?

Modularisation - does the system use modularity as a key instrument for change and are there other ways of looking at the role of curriculum structure, e.g. the role of short courses?

Centralisation/decentralisation - is the system becoming more or less centralised/decentralised and are some aspects of the system centralised (e.g. national qualifications) while some other aspects are decentralised (e.g. teacher experiments in pedagogy)?

Pathways - do the reforms build extended pathways particularly between vocational education and higher education and is this meant to open up access to universities or to build alternative higher educational structures (e.g. polytechnics)?

Relationship Between Different Strategies and Type of System

Since the start of the Post-16 Strategies Project, four basic reforming strategies have been identified in relation to developing the parity of esteem of vocational education:

Vocational Enhancement

Mutual Enrichment

Linkages

Unification.

It is now being argued that there may be a relationship between the type of strategy being pursued and the type of system in which it is being used (see Raffé, pp. 273-278).

1. Unification may be easier in school-based systems (particularly small systems);
2. Enhancement of vocational education is a dominant feature of reforms in work-based training systems though it may be also present in other systems;

3. Mutual Enrichment could be regarded as a more advanced stage in the development of unified systems where the emphasis is on pedagogic development rather than on certification as the instrument of reform;
4. Linkages may be a strategy of change in systems which have had high-status academic routes, not so distinct vocational systems and larger and more complex education and training systems. - The aim is to achieve parity of esteem through degrees of commonality between general and vocational education.

The complex reality is that each country may demonstrate combinations of these strategies and each particular combination may be determined by the level at which the reform is taking place. It may further be the case that the strategies are also sequential and there is a movement from one to the other (e.g. from linkages to unification).

Effects of the Reforms on Educational Systems

A key question is whether the "parity of esteem reforms" will make the education and training systems of the partner countries more convergent or more divergent. More specifically, do they produce changes in the character of the education and training systems when contrasted with how they were described in the mid-1980s as after 1985? According to OECD (1985) the education systems were categorised as follows:

- dual-model systems,
- school-based models, and
- mixed systems.

It has already been increasingly recognised that these classifications have been breaking down over the last ten years due to increased levels of participation, the expansion of education and training systems and the fact that they have become more complex.

There is some evidence to suggest that there may be movement towards convergence as the respective systems grapple with similar problems, though proceeding from different starting points and using different and overlapping strategies.

Mixed systems such as those in England have experienced increases in participation and have become more school-based, albeit as a "weak" variant of such systems.

Dual or work-based systems, in trying to close the gap between vocational training and general education, may actually create more education-based systems even though there may still be an official emphasis on the distinctiveness of vocational education. In this sense it may be useful to distinguish between intended and unintended consequences of reform.

School-based systems have to consider how students make vocational choices and how to develop vocational routes which are attractive to young people and can link up with higher education.

The outcome of the current stage of development of these systems may produce a series of system features which have more in common with each other than noticeable differences.

It may also be the case that in the future the systems will be better analysed, not merely through static descriptions characterizing them as work-based, school-based and mixed, but also through the strategies which indicate their direction of development. Thus the systems could be placed on a continuum from distinctive to integrated and their direction and type of development could be distinguished in terms of the four basic strategies, their combinations and in terms of the particular instruments of reform used in each system. In this sense, the systems are no longer being described on the basis of their patterns of participation (which are becoming more common) but on the basis of their strategies of reform.

Problems and Contradictions of the Reform Processes

At this point in the Post-16 Strategies Project it is difficult to determine how far the reform strategies are succeeding in solving the problems they are meant to address. However, there is one rather interesting problem which appears to be common to most of the experiments and that is the apparent conservatism of student choices.

Those systems that want to move in a more unified direction and at the same time offer students a broad range of choice may also be encouraging academic drift or reflect more basic social divisions between academic and vocational orientations because of the way in which prevailing values and cultures impinge upon student choices. This could be countered by very strong and supportive messages coming from the labour market concerning the acquisition of certain types of vocational qualifications.

However, in the absence of this or of divisions of opinion amongst employers, the answer may be more prescription and rules of combination by qualifications authorities. The aim of such prescription and rules would be protecting the integrity of the vocational route and encouraging students to combine studies in more radical ways. This issue of prescription and flexibility is certainly becoming an important aspect of the English reform debate.

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CONCLUSIONS

European Strategies for Parity of Esteem

David Raffe

Centre for Educational Sociology
University of Edinburgh

Four Reform Strategies

This paper presents a provisional synthesis of the eight country studies, and provides a framework for further analysis. It describes four strategies for parity of esteem, represented among the reforms in the Post-16 Strategies Project. The analysis is speculative, and probably coloured by Scottish perspectives. It offers a conceptual framework and hypotheses for further study, rather than firm conclusions from the project so far.

The four strategies are:

Vocational enhancement: to enhance vocational education, and make it more attractive to potential students, through measures which maintain and strengthen its distinctive ethos and its separateness from general education. The reforms in Germany and Austria exemplify this strategy;

Mutual enrichment: to enhance both vocational and general education through measures which allow each to draw from the best features of the other. This strategy brings the two types of education closer to each other but maintains a distinct identity for each. The experimental reforms in Finland and *Reform -94* in Norway are examples;

Linkages: to give vocational and general education the same formal status, and to link them through such measures as a common certification framework, arrangements for recognition and transfer, and common curricular elements. The Dearing proposals for England, and the French Vocational Baccalaureate, are examples;

Unification: to abolish the distinction between vocational and general education by combining them within a unified system and developing a curriculum which integrates the two. The reform of Swedish upper secondary education, and the *Higher Still* reform in Scotland, are examples.

There are variations within each of these strategies, and reforms may combine elements of different strategies. For example, I have classified the Norwegian *Reform -94* as an example of mutual enrichment, but it also includes elements of the linkages strategy (for example its provision of opportunities for transfer from vocational to general programmes) and elements of the unification strategy (its introduction of a comprehensive upper secondary school). Moreover, different reforms within the same country may pursue different strategies: in France the Technological Baccalaureate is

closest to the vocational enhancement strategy, while the Vocational Baccalaureate is closest to the linkages strategy.

The four strategies may be placed on a continuum from "distinctiveness" to "integration". It may be easier to define the two poles of the continuum than the intermediate points. "Mutual enrichment" and "linkages" have in common that they seek to bring vocational and general education closer together, while falling short of integration; but there may be other ways of doing this. Distinguishing the possible intermediate points on our continuum may be a task for further conceptual development.

In an earlier paper I distinguished between "pure tracking", "flexible tracking" and "unified" models of post-compulsory education and training systems; a later variant of this analysis suggested that there was a tendency for systems to move towards the integrated end of the continuum (Raffe, 1994a, 1994b). The strategies proposed above bear some resemblance to these models (although strategies, by definition, are dynamic and may not correspond precisely to static models). There is another parallel in the three "strategic options" for England and Wales, as analysed by the Learning for the Future project: these are respectively to retain and improve the present three-track system, to introduce a common framework to link the tracks, and unification (Richardson et al., 1995).

Table IV-1.

Typical Contexts of the Four Strategies

Context	S t r a t e g y			
	Vocational enhancement	Mutual enrichment	Linkages	Unification
Work-based (dual) or school-based	Work-based	School-based	Either, mixed	School-based
Size, centralisation and homogeneity	-	Small, centralised, homogeneous	Large, decentralised, heterogeneous	Small, centralised, homogeneous
Labour-market structure	Occupational	-	-	Internal
Demand for vocational qualifications	Strong	-	-	Weak
Higher education	Small and/or differentiated	-	-	Large and/or homogeneous

The Context of the Four Strategies

The choice of a strategy, and the problems which it addresses, vary according to the educational system and its social and labour-market context (see Table IV-1). The strategy of vocational enhancement is most likely to be pursued in countries with well-established work-based provision (particularly in the context of a dual system); in such systems, we may speculate, the close link with occupational practice provides a basis on which vocational education can construct a separate ethos and identity. Mutual enrichment is more likely to be pursued within a school-based system, because it is easier for vocational and general education to enrich each other if they share the same pedagogical, organisational and cultural context which school-based provision provides. Unification is also easier within a school-based system; attempts to combine school-based and work-based provision within a unified system face difficulties, as the earlier Scottish experience reveals, and the current Scottish reforms exclude the work-based element. The linkages strategy, by contrast, may be most appropriate in systems which combine school- and work-based provision, but where the work-based route does not have the status and the dominant role which it enjoys in the German-speaking countries.

Mutual enrichment and unification may both be characteristic of smaller, more centralised or more homogeneous systems; it is easier to disseminate the "enriched" curricula within such systems, and there are fewer political or institutional barriers to unification. Conversely, a linkages strategy may be more characteristic of larger or more centralised systems.

The labour-market and educational progression opportunities of upper secondary students determine the appropriateness of different strategies. Here it is easiest to define the two poles of the continuum. Vocational enhancement is most likely to be appropriate in countries where occupational labour markets are strong, where there is a strong demand for vocational qualifications at intermediate (upper secondary) level, and where the higher education sector is small and/or differentiated. Unification is more appropriate in countries with stronger internal labour markets, a weak demand for vocational qualifications, and a large and homogeneous (or unified) higher education sector.

One important dimension is missing from the grid in Table IV-1: the purposes or aims of each reform. Our analysis suggests that each strategy may be used to pursue a variety of possible aims, and that the choice of reform strategy may be dictated by its system and context more than by its purposes.

Features of the Reforms

Table IV-2 presents - rather more tentatively - some typical aspects of each strategy. It is not a complete list, but identifies some of the instruments or design features characteristic of the different strategies. The table indicates:

Table IV-2.
Typical Features of the Four Strategies

Features	S t r a t e g y			
	Vocational enhancement	Mutual Enrichment	Linkages	Unification
System-wide	-	X	X	XX
Certification as key instrument of reform	-	-	XX	X
Curriculum development as key instrument	XX	X	-	X
Modularisation: choice	-	XX	X	XX
Modularisation: integration	X	X	-	-
Extending the vocational pathway	XX	?	X	?
Occupational focus	XX	?	?	-
Work-based learning	XX	?	X	?
Key qualification (etc)	XX	X	XX	?
Networks (schools)	-	XX	X	X
Networks (schools - industry)	XX	X	X	X

Notes: XX an important feature of the strategy
 X a less important or more contingent feature
 ? an uncertain or very contingent feature
 - not a feature of the strategy.

The first feature - important because it is often left implicit - concerns the scope of the reform. Vocational enhancement focuses on vocational education and typically leaves the general pathway unreformed, while unification is concerned with the whole system. The two intermediate strategies are concerned with both general and vocational education, but may vary in the extent to which they affect the entire system.

The next two features distinguish the linkages strategy, whose key instrument of reform tends to be the structure of certification, from vocational enhancement, whose key instrument tends to be curriculum development. Mutual enrichment is more likely to involve curriculum development, whereas unification involves both certification and curriculum development.

The next three features identify aspects of pathways through the system. Modularisation is a central feature of mutual enrichment and unification, used as a means for extending student choice and increasing the possible combinations of subjects studied. If modularisation is a feature of vocational enhancement, it is more likely to serve as a means for curriculum development, for example through project-based models which develop key qualifications. The different strategic uses of modularisation in initial vocational training were analysed by an earlier EU Petra partnership (Raffe, 1992; de Bruijn et al., 1993). This partnership also noted that, although "modules" with this function could be found in the German system, they tended not to be called modules (Jordan, Manning & Weissflog, 1992). Vocational enhancement and the linkages strategy attempt to lengthen the vocational pathway and provide better progression opportunities within it, rather than (or as well as) by allowing transfer to the general route.

Vocational enhancement is a characteristic of systems where vocational education has a strong occupational focus, and derives much of its status and identity from the occupations it serves; the strategy for vocational enhancement typically builds on this occupational focus. At the other extreme, unification strategies tend not to emphasise the occupational dimension, and may attempt to replace or transcend it.

Vocational enhancement also strongly emphasises work-based learning. While at a rhetorical level this is a feature of most of the reforms studied, it seems to be less central to the other three strategies. Perhaps the place of work-based learning is problematic in all the strategies for parity, except vocational enhancement, because it is difficult to provide a meaningful curriculum link between school and workplace without increasing the organisational and cultural "separateness" of vocational education. This issue merits further investigation in the project.

Key qualifications - or similar concepts such as transferable skills, core skills, overarching competencies and so on - are a potential feature of all strategies. It is possible that the strategies differ more in the way this curriculum concept is interpreted than in its importance in the strategy. However, key qualifications may be most significant in vocational enhancement and in the linkages strategy, where they may be used to define a common core for both general and vocational education, and more contingently relevant to unification.

Finally, networking is a feature of all strategies; networking between schools and enterprises is more characteristic of vocational enhancement, while networking among schools is more characteristic of the other three strategies, especially that of mutual enrichment.

Questions

This analysis is provisional: it poses hypotheses, not conclusions. However, it raises a number of questions, including:

Are there other possible intermediate strategies between vocational enhancement and unification?

What is the relation of (dynamic) "strategies" to (static) "models"?

Are strategies determined more by the system and context of a reform than by its purposes?

Work-based learning has a clear role in the strategy of vocational enhancement: is its role in the other strategies problematic and, in practice, marginal?

Does the definition and role of "key qualifications" vary systematically according to strategy?

Does our analysis reveal a process of divergence within Europe, between systems which aim to enhance vocational education and increase its distinctiveness, and systems which all aim, in different ways, to bring general and vocational education closer together?

If so, are all the latter systems moving, in the long term, towards unification? Or is unification merely a resort for systems in which vocational education is simply too weak to sustain any separate identity?

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The further measures of the Post-16 Strategies Project will start the collaborative writing process for composing the final report of the project. The purpose of the last phase of project work is to give the four strategies of post-16 education applied in various contexts in Europe all possible scientific and action-oriented support. The work will consist of collaborative comparisons and analyses of the four post-16 strategies identified earlier and of study visits to pilot schools.

The aim of the writing task undertaken by the Project is to compare and review the four reform strategies for parity of esteem linked with the partners' eight different post-16 education systems. To prepare these comparisons and reviews the partners are working in country pairs representing two different cases within one strategy:

- the Austrian and German partners: the strategy of Vocational Enhancement;
- the Norwegian and Finnish partners: the strategy of Mutual Enrichment;
- the English and French partners: the strategy of Linkages;
- the Scottish and Swedish partners: the strategy of Unification.

The country pairs writing the section on their allotted strategy will produce papers introducing the strategy that is linked with the reforms undertaken in the two countries concerned. It is recommended that the comparisons cover:

- the contexts of the reform strategy in question (e.g. the educational system, the labour market);
- the purposes of the strategies and reforms;
- the reforms themselves (a summary of the paper presented at the Jyväskylä workshop for the benefit of those readers who will not have seen any other papers from the Post-16 Strategies Project);
- the rationale: why was this strategy (and these reforms) chosen? How are their purposes expected to be achieved? What are the problems facing them?;
- the progress of the strategies or /and related reforms, including a brief description of any outcomes and research results to date;
- the nature of the problems that the strategies and reforms address.

The cross-national study visits, which will have been made in the Fall of 1996, to pilot schools or other institutions of learning by the practitioners involved with the reforms will provide information about actual teaching / learning arrangements, exposing the problems of and/or supporting the strategies applied. The purpose of the stakeholders' study visits is to create transnational linkages between experimental and pilot schools that will enable all parties to learn from each other's experiences and prepare ground for future exchange programmes and possible pilot projects. The purpose of the collaboration between the researchers and the stakeholders is to evaluate the experiences that the experimental schools have gained of linking school-based and on-the-job training in vocational education, of integrating vocational and academic / general education, and of institutional and teacher collaboration.

The action-oriented reports on the study visits will contribute to the evaluation of post-16 strategies and help the practitioners design future exchange programmes

among the seven countries. Each country's practitioners will make bilateral or multi-lateral visits as follows: Austria to Finland and Finland (Tornio) to Austria; England to Sweden and Sweden to England; Finland (Salo) to Scotland and Scotland to Finland; Germany to Norway and Norway to Germany. The visitors are school personnel who are involved in reforms of post-16 education together with project partners or who have study programmes aimed at linking general/academic and vocational education or who are engaged in some other efforts to improve the parity of esteem for initial vocational education.

The school representatives / stakeholders / practitioners who visit the other countries' pilot schools / institutions with project funds will write a visiting report. It should answer (some of) the following questions:

What reforms was the host school implementing?

What kind of linkages did exist between the host and working life?

To what extent did the students themselves construct their study programmes?

How did the teachers and schools collaborate? What were the goals and outcomes of such collaboration?

What kind of procedures have been used to develop the curriculum of vocational programmes?

What kind of problems have been encountered?

What are your plans for further collaboration with the educational establishments you visited (objectives, timetable, person in charge, financing plans)?

What did you learn during the visit?

A national researcher coordinates and arranges an international practitioners' visit with a pilot school. In their action-oriented reports the researchers will answer the following questions on the basis of the experiences they have gained from the visits and of the findings of previous studies:

Why was each particular unit selected?

Which educational activities of the units are promoting an increased parity of esteem for initial vocational education?

What kind of general/academic studies are included in their vocational education programmes?

What kind of vocational studies are included in their general/academic study programmes?

How are the linkages between the schools and working life arranged in support of curriculum development? What are the future prospects? What kinds of problems exist?

Anything else that helps to explain the nature of your national reform case.

The data collected by collaborative comparisons and study visits will be reported and synthesised in a workshop that will be held in Bremen, Germany in January 1997, where the decisions concerning the final phase of the project work will be made.

In its final phase the Post-16 Strategies Project will produce, as a fruit of its analyses,

charts of the various post-16 European strategies for improving the status of initial vocational education and

models for linking theoretical and practical knowledge and school-based and on-the-job-training.

The impact of the Projects is increasing our comparative analytic knowledge of European strategies involving an attempt to link vocational and academic/general education and of ways of exchanging information about European upper secondary education reforms. At the level of the educational system networking between vocational and academic learning institutions will improve the parity of esteem between vocational education and academic/general education and promote young people's educational equality by offering options for constructing individual study programmes.

CONTRIBUTORS AND PARTNERS

Kjell Andersen

Section for Teacher Education
Postgraduate School of Education
Agder College
Kongsgaard Alle 20
N - 4604 Kristiansand, Norway
Tel +47 3814 1259
Fax +47 3814 1201

Kjell Andersen was born in 1938. He gained his Bachelor's degree from the University of Oslo in 1965, after which he taught in lower and upper secondary schools in Norway. In 1970 he took his Master's degree in Pedagogy from the University of Oslo. Between 1970 and 1977 he taught at a Teacher Training College until being appointed Programme Director responsible for the

education of upper secondary school teachers at the Section for Teacher Education of Agder College. He is Member of the National Board for Practical-Pedagogical Education, as well as of various committees and curriculum planning groups appointed by the Ministry of Church, Research and Education and the National Board of Teacher Education. This year he was nominated by the Ministry as Chair of national committee with the task of proposing how national competence areas are to be distributed among the colleges that provide teacher education in Norway.

Göran Arnman

National Agency for Education/
Skolverket
Bankgatan 1
S - 22352 Lund, Sweden
Tel +46 46 190 941
Fax +46 46 190 949

Göran Arnman graduated from the University of Lund with a BSocSc in 1970 and gained his PhD in Sociology in 1985 from the same university, where he has also, since 1989, been a Docent in Sociology. Between 1965 and 1976 he worked as a research assistant in various sociological research projects of the Department of Sociology at the University of Lund. Between

1974 - 1977 he taught part-time at the School of Architecture, Lund. Since 1976 he has functioned as a project leader for educational research projects, mainly financed by the National Board of Education (since replaced by the National Agency for Education) and the National Swedish Board of Universities and Colleges. He has lectured on Sociology at the University of Lund since 1987. In 1991 he was appointed Director of Education at the National Agency for Education, Lund. His main research project was an extensive longitudinal study of roughly 4000 Swedish children's progress through the school from the age of 7 to the age of 25. He has also studied the problems of disadvantaged residential areas. Both as a researcher and as Director of Education he has been responsible for evaluating the ongoing reforms of Swedish upper secondary education. Another recent project involved choice of school as an influence on the sociocultural structure. He has collaborated extensively in monographs, conference papers and journal articles in Swedish and English on social segregation and equalization and cultural issues at school and on general educational, vocational and adult education policy in Sweden and elsewhere.

Barbara Birke
Industriewissenschaftliches Institut
an der Wirtschaftsuniversität Wien
(IWI)
Reisnerstrasse 40
A - 1030 Wien, Austria
Tel +43 1 715 3790 5500
Fax +43 1 715 3790 558

Vienna University of Economics (IWI). Since 1996 she has been Head of the Department of Educational Economics at IWI. Her main fields of research include post-secondary vocational education projects to evaluate the demand in Austria for the provision of new vocational studies and further education facilities for people in employment.

Barbara Birke (née Übelbacher), Mag., was born in 1967 in Vienna, Austria. She graduated from the Vienna University of Economics with a degree in Commerce in 1993 and is now working on her doctorate. She started her career as a researcher with ecological feasibility studies at the Vienna University of Economics. In 1994 she joined the Institute for Industrial Research at the

Walter Blumberger
Institut für Berufs- und Erwachsenenbildungsforschung
an der Johannes Kepler Universität
Linz (IBE)
Raimundstrasse 17
A - 4020 Linz, Austria
Tel +43 732 609 314
Fax +43 732 609 313 21

He gained his doctorate in 1982 and a *venia docendi* for Technology Assessment in 1993. Since 1986 he has been Professor of Adult Education at the Linz Teacher Training College, since 1991 Lecturer at the University of Salzburg and since 1993 Assistant Professor at the Institute for Sociology, University of Linz. He has published several books and numerous papers. The main fields of his scientific activities include vocational training, qualification needs and vocational rehabilitation as well as social economy, social planning and evaluation.

Walter Blumberger, Universität Dozent, Mag., Dr., born in 1945 took his university degree through evening classes. He then studied Sociology at the University of Linz and Educational Sciences at the University of Linz and the University of London. He worked as an unskilled worker, a librarian and in housing business. Since 1982 he has been Managing Director of the Institute for Educational and Vocational Research (IBE).

Rainer Bremer
Institut Technik und Bildung
Universität Bremen
PO Box 330440
D - 28334 Bremen, Germany
Tel +49 421 218 4629
Fax +49 421 218 4637

Rainer Bremer was born on March 3, 1952 in Oberhausen, Rhineland. Finishing *Gymnasium* with an *Abitur* in 1972, he went on to study Sociology, Physics (part-time), Political Science and Pedagogy at the University of Münster (Westphalia). He completed his studies at the University of Hannover where he gained a PhD in Sociology, Political Science and Pedagogy with a

dissertation on the conflict between the critical theory and the followers of Jürgen Habermas. Since 1985 he held various temporary posts in educational research institutions. Since 1988 he was employed by the *Landesinstitut für Schule und Weiterbildung* in Soest (Westphalia) as a consultant and researcher for the *Kollegschole*, an educational institution aiming at the integration of general and vocational education, with the responsibility of developing technical curricula. In 1993 he was offered the opportunity to join the Institute for Technology and Education at the University of Bremen and to return to an university research unit as a researcher (*wissenschaftlicher Mitarbeiter*) in a project whose aim goes beyond the integration of general and vocational education by school reforms, representing, instead, an attempt to improve such strategies (e.g. the *Kollegschole*) by also reforming the enterprise's part in the dual system.

Gerald Heidegger
Institut Technik und Bildung
Universität Bremen
PO Box 330440
D - 28334 Bremen, Germany
Tel +49 421 218 4640
Fax +49 421 218 4637

Gerald Heidegger, originally a physicist (diploma equivalent to M.Sc., University of Heidelberg), has been conducting research on vocational education since 1975. He earned a doctor's degree (University of Kassel) in vocational education and has gained the *Habilitation* (*venia legendi*) with full responsibility, qualification for a professorship for teaching and research in vo-

ccational pedagogics at the University of Bremen.

He was for four years scientific consultant for the model project *Kollegstufe* in the *Land* of North Rhine-Westphalia concerned with the issue of integrating vocational and general/academic education. Afterwards he was, for several years, in a responsible position as scientific advisor for a similar model project in the *Land* of Hesse. Both tasks involved theoretical work as well as action research within vocational schools, the results of which were published in several books and numerous articles.

Within the ITB at the University of Bremen Dr. Gerald Heidegger is responsible for the research area Integration of Vocational and General/Academic Education. He is head of the scientific advisory group of the Brandenburg model project. His research fields include (1) theory of the integration of vocational and general/academic education; (2) practical innovations within the framework of the German dual system; (3) curriculum development for both schools and enterprises; and (4) designing job profiles and vocational education projects by means of the scenario method, including dissemination activities.

Alexander Kohler

Industriewissenschaftliches Institut
an der Wirtschaftsuniversität Wien
(IWI)

Reisnerstrasse 40

A - 1030 Wien, Austria

Tel +43 1 715 3790 5500

Fax +43 1 715 3790 558

Alexander Kohler was born on 6 July 1967 in Bregenz, Austria. After his Matriculation Examination he entered the Vienna University of Economics where he studied Market Research, Marketing and Tourism. He has also conducted studies in Dayton in Ohio, USA and in Montpellier in France. He acquired his first practical experience in vocational education and training and human

resources development research by carrying out several empirical surveys alongside his university training. He graduated in 1993 and started his professional career at the *Industriewissenschaftliches Institut (IWI)* in Vienna. His main field of activity has been needs analyses for newly established training facilities in Austria.

Since Autumn 1994 he is head of IWI's Department of Vocational Education and Training Research. He is currently engaged as a national expert on secondment to the European Centre for the Development of Vocational Training (CEDEFOP) in Thessaloniki, Greece, where he is conducting an international comparative study of funding models for Continuing Vocational Training (CVT).

Johanna Lasonen

Institute for Educational Research
University of Jyväskylä
PO Box 35

FIN - 40351 Jyväskylä, Finland

Tel +358 14 603 307

Fax +358 14 603 201

Johanna Lasonen (born in 1951) gained a Teacher's Diploma in 1974, a MA in Pedagogics in 1977 from the University of Jyväskylä, Finland, and a doctoral degree in Vocational and Technical Education in 1990 from the Virginia Polytechnic Institute and State University, USA.

Dr. Johanna Lasonen taught ten years as a Senior Lecturer at the Vocational Teacher Training College of Jyväskylä. After a three-year fellowship with the Academy of Finland, she received the tenure of a Senior Researcher at the Institute for Educational Research.

Her research has focused on analysing the effects of learning environment on musical skills among school-age children and on mapping the link between attitudes and the promotion of equality among teachers in vocational education institutions. She has also studied the learning of young adults using both quantitative and qualitative methods.

Johanna Lasonen has participated as an expert in educational evaluation projects in Sudan, Namibia, Turkey and Finland. She is also a trustee of some professional organisations and the author of several journal articles and monograph chapters in Finnish and English. In 1995 she joined the four-year research programme on Individualization in Education and Training. She is coordinating and managing the Post-16 Strategies Project.

Anne Lazar
Institut National de la
Recherche Pédagogique (INRP)
29 rue d'Ulm
F - 75230 Paris Cedex 05, France
Tel +33 1 4634 9130 9099
Fax +33 1 4634 9040/4354 3201

Anne Lazar began her work at the National Institute for Pedagogical Research (INRP) after a long teaching career in vocational lycées (French language) and in an *Institut de Formation des Maîtres* (Philosophy). She gained her doctorate in Education in 1995.

Dr. Anne Lazar's research has covered secondary and vocational education, with particular emphasis on general

education as a component of vocational education. Working in the Department of Didactics, she is currently analysing the parity of esteem between academic and technological-vocational knowledge and subjects within the technological and vocational curricula. She is engaged in several research projects with former teachers now similarly affiliated with INRP, previously content specialists in their respective fields. She has concentrated on the place and status of the languages of technology from the perspective of the interaction of the two cultures of technology and of the school.

René Levrat
Centre International d'Études
Pédagogiques (CIEP)
1 avenue Léon-Journault
F - 92311 Sèvres, Cedex, France
Tel +33 1 4507 6000
Fax +33 1 4507 6001

René Levrat, a teacher of technology, was nominated as a member of the Standing Commission for Curriculum Development in Technology Education (COPRET or *Commission permanente de réflexion sur l'enseignement de la technologie*, established in 1984). After postgraduate study at the University of Jussieu he joined the International Centre for Pedagogical Studies (*Centre International d'Études Pédagogiques*,

CIEP) in 1990.

His main activities are focused on curriculum development in the field of technology education and on comparative studies of secondary education in Europe. He participates in two European PETRA projects. His European activities include collaboration with the CEDEFOP, organising summer schools (1994-1995) at the CIEP on issues involved in and trends of technology teacher training and taking part in a joint project between European universities (UAB/ICE de Barcelona-University of Wuppertal). He is founder of the European Association for Technology Education (AEET or *Association européenne pour l'éducation technologique*).

Moira McKerracher
Scottish Vocational Education
Council (SCOTVEC)
Hanover House
24 Douglas Street
UK - Glasgow G2 7NQ,
United Kingdom
Tel +44 141 242 2172
Fax +44 141 242 2244

Moira McKerracher was educated in Scotland at the University of Glasgow, where she graduated in English and French, and at the University of Strathclyde, where she studied Careers Guidance. Her first appointment, in 1979, was as Careers Officer for the Strathclyde Local Education Authority, where she served for six years, progressing to team manager.

Her next major post was at the Strathkelvin Enterprise Trust in 1989, where she set up and managed the Training Agent function for the Employment Training Scheme. She designed and ran training courses and offered guidance on training, action plans and business start-up to adults and young people.

In 1991 she joined SCOTVEC as European Development Officer. Her responsibilities included advising Scottish training providers on the European dimension of vocational education and training, contributing to UK responses to the mutual recognition and transparency debate, and tendering for and representing SCOTVEC in European projects. She coordinated a major European research project on the recognition and certification of transnational placements, and contributed to a range of national and European reports and publications on vocational education and training.

In 1995 she was promoted to International Development Officer in recognition of the widening scope of SCOTVEC's activities. Since then she has been active in designing and managing projects and in marketing SCOTVEC's expertise internationally.

Jim Murray
Scottish Vocational Education
Council (SCOTVEC)
Hanover House
24 Douglas Street
UK - Glasgow G2 7NQ,
United Kingdom
Tel +44 141 242 2172
Fax +44 141 242 2244

Jim Murray was educated in Scotland at the University of Aberdeen where he gained a degree in French Studies, followed by a secondary school teaching qualification. For the first ten years of his career he taught English and French as Foreign Languages in a variety of contexts in Scotland, France and the United States, with a special interest in the assessment of foreign language competence. From 1980 he was a member of the

Scottish National Working Party on computer-assisted foreign language learning.

In 1983 he obtained a leave of absence from teaching in order to take up an appointment with the UK Overseas Development Administration's bilateral aid programme to Vanuatu in the South-West Pacific. Successive posts involved teaching and school management, curriculum and examination reform, educational policy development, secondary school inspection, in-service training, and liaising with aid projects. On his return to the UK in 1991 he undertook further study at the University of London on educational management in developing countries.

In 1993 he re-entered mainstream secondary teaching in Scotland and in 1996 joined SCOTVEC and the Scottish Examination Board as an International Development Officer. Current duties for both organisations include promoting their international consultancy services and organising seminars and study visits for overseas visitors. Additional SCOTVEC activities include the preparation of European proposals and taking part in Leonardo projects.

Raimo Mäkinen
Institute for Educational Research
University of Jyväskylä
P.O. Box 35
FIN - 40351 Jyväskylä, Finland
Tel +358 14 603 301
Fax +358 14 603 201

Raimo Mäkinen has gained all of his academic degrees in psychology at the University of Jyväskylä, including a doctorate in 1982. A phase dominated by teaching tasks at the Jyväskylä College of Education, University of Jyväskylä covers the years from 1963 to 1979 and includes several junior/senior teaching positions at the Department of Psychology (research assistant, as-

sistant, senior assistant, lecturer, associate professor, senior lecturer). The main topics of his teaching and research were social psychology, research methodology, vocational counselling, and psychology of work and organizations.

A phase dominated by research tasks began in 1979. It has continued at the Institute for Educational Research, University of Jyväskylä since 1983. His major research topics include work stress and work organizations, higher education and university studies and, from the year 1988 onwards, vocational and professional education. He has also acted as a department head and research manager of the research groups specializing in higher education and vocational education.

Dr. Raimo Mäkinen's teaching tasks (as a docent/senior lecturer) include advising some licentiate/doctoral students of the Department of Psychology and Department of Education at the University of Jyväskylä. He has written many articles and books in Finnish, English and Swedish.

Ulla Numminen
Ministry of Education
Koulutuskokeilut
Hakaniemenkatu 2
FIN - 00530 Helsinki, Finland
Tel +358 9 7747 7853
Fax +358 9 7747 7838

Ulla Numminen gained her MA in Psychology and Education from the University of Helsinki in 1968. Before that she had qualified as an physiotherapist in 1961, and in 1971 she graduated as a teacher of physiotherapy. She has worked as a physiotherapist in Finnish and foreign hospitals (1961 - 1968) and taught physiotherapy (1968 - 1973). In 1973 - 1974 she was

Principal of Helsinki IV College of Health, from 1974 to 1990 Senior Inspector of Rehabilitation, Planning Officer and Head of Curriculum Bureau of the National Board of Vocational Education and from 1990 to 1996 Project Manager in the Ministry of Education. Since 1996 she has worked as a Senior Consultant on the National Board of Education. She is responsible for managing the Finnish experimental upper secondary (general and vocational) education project and has published the Follow-up Reports of Upper Secondary School Experiment 1992 - 1996.

David Raffé
Centre for Educational Sociology
(CES)
University of Edinburgh
7 Buccleuch Place
UK - Edinburgh EH8 9LW,
United Kingdom
Tel +44 131 650 4191
Fax +44 131 668 3263

David Raffé joined the Centre for Educational Sociology (CES) at the University of Edinburgh in 1975, after undergraduate and postgraduate study at the University of Oxford. He has been Director of the CES since 1987 (jointly with Andrew McPherson from 1987-1994) and Professor of Sociology of Education since 1992. In October 1996 he also became Co-Director of the newly-formed Institute for the Study of

Education and Society, which incorporates the CES and the University's Department of Education.

Professor David Raffé's research has covered secondary, further and higher education, training and the labour market, with particular interests in vocational education and in comparative education and training systems. He has been closely involved with the Scottish Young Peoples Survey conducted by the CES.

His European and international activities have included work for the European Commission, the OECD, EUROSTAT and CEDEFOP, chairing the European Science Foundation Network on Transitions in Youth, and membership of several European committees and networks.

Other current projects include the Anglo-Scottish Unified Learning Project (with the Post-16 Education Centre at the University of London), a study of Part-Time Higher Education in Scotland, and studies of young peoples transitions in education and the labour market. His interest in the *Higher Still* reform is more than academic: if the present schedule is maintained, his son and daughter will be in the first and third cohorts of young people to experience the unified system.

Ove Sandvik
Section for Teacher Education
Postgraduate School of Education
Agder College
Kongsgaard Alle 20
N-4604 Kristiansand
Norway
Tel +47 38141303
Fax +47 38141201

Ove Sandvik was born in 1950. He is married with three children aged 16, 18 and 21. He graduated in English from the University of Oslo in 1978, after which he taught English, History and Religion in Norwegian upper secondary schools until 1988. In 1988 he was appointed English lecturer at the Army Military Academy in Kristiansand where he worked until 1994. In 1993-1995 he was a part-time lecturer on

English at Agder College where he also became Director of Teaching Practice at the Postgraduate School of Education in 1994.

Since 1984 he has attended various seminars and conferences on Norwegian-American literature and history, contributing a number of papers. In 1985, having received a Fulbright grant, he studied American Civilization at the University of Minnesota. Between 1990 and 1994 he undertook study visits to military educational institutions in GB (Defence School of Languages, the Royal Military Academy at Sandhurst), the USA (US Military Academy, West Point, US Naval Academy, Annapolis) and NATO HQ in Brussels. He has also taken part in various conferences organized by the Nordic/European Association for American Studies and a summer course for Norwegian teachers at the Pacific Lutheran University, Washington. Since 1994 he has attended Norwegian conferences and seminars on teacher training and

education. The current focus of his interest is the improvement of and innovation in the training and education of secondary school teachers.

Ken Spours

Post-16 Education Centre
Institute of Education
University of London
56-59 Gordon Square
UK - London WC1H 0NT, United
Kingdom
Tel +44 171 612 6758
Fax +44 171 612 6766

Ken Spours is a lecturer and research officer in the Post-16 Education Centre at the Institute of Education, University of London. He specialises in research and development work on post-16 qualifications, progression and problems of participation in post-compulsory education.

Ken Spours has worked in further education colleges and has been a local authority advisor and inspector for schools.

He is currently Course Leader for the Master Programme in Vocational Education and Training at the Institute of Education and teaches in this area. He also has two research responsibilities. He is currently Research Fellow for the Learning for the Future Project which has recently published a detailed analysis of the post-16 education system in England and Wales and in particular has developed a blueprint of steps and stages towards a unified qualification system.

Since April 1996, Ken Spours has had a role as a research officer for the Economic Social Research Council in Learning Society Project that is dealing with Anglo-Scottish comparisons of unifying academic and vocational learning known as the Unified Learning Project. This project has a direct relationship to the Leonardo da Vinci Project.

Andreas Tabernig

Institut für Berufs- und Erwachsenenbildungsforschung
an der Johannes Kepler Universität
Linz (IBE)
Raimundstrasse 17
A - 4020 Linz, Austria
Tel +43 732 609 314
Fax +43 732 609 313 21

Andreas Tabernig was born in 1960 in Linz, Austria. He gained his MA in Political Science and Philosophy from the University of Vienna. He started his career as a researcher at the Austrian Institute for Vocational Research (ÖIBF) in 1991. Since 1995 he has been working freelance. His main lines of research involve changes in vocational qualifications and in the training programmes in schools and enterprises

made necessary by the structural changes that have taken place in industry.

Maarit Virolainen
Institute for Educational Research
University of Jyväskylä
PO Box 35
FIN - 40351 Jyväskylä, Finland
Tel +358 14 603 318
Fax +358 14 603 201

Maarit Virolainen is Researcher at the Institute for Educational Research, University of Jyväskylä. Currently she is conducting follow-up research on Finnish youth education experiment. She has a MA in Social Sciences completed at the University of Jyväskylä in 1994. After finishing her Master's thesis on women in management she coordinated the international evaluation of the youth education experiment as research amanuensis in 1994-1995. Her research interests include working life issues; she participated in a project on Job Insecurity at the University of Jyväskylä in 1995-1996.

Matti Vesa Volanen
Institute for Educational Research
University of Jyväskylä
PO Box 35
FIN - 40351 Jyväskylä, Finland
Tel +358 14 603 311
Fax +358 14 603 201

Matti Vesa Volanen was born on 5 January 1947. He received his MA in 1978 from the University of Helsinki. He has worked in the Institute for Educational Research at the University of Jyväskylä in 1974 - 1976 and again since 1979. Presently he holds there the post of Senior Researcher. Matti Vesa Volanen has worked, among others, in the following international projects: Transition

from School to Work organized by Vienna Centre (1984 - 1986), Vocational and Technical Education in OECD Countries (VOTEC) organized by OECD (1992 - 1995), and Network on Transitions in Youth organized by European Science Foundation (1993 - 1996). He has studied initial vocational education and school-to-work transition, particularly of their theoretical aspects, as part of both Finnish and international research projects, contributing, singly and in collaboration, papers in Finnish, Swedish, German and English to Finnish and European publications and conferences.

Michael Young
Post-16 Education Centre
Institute of Education
University of London
56-59 Gordon Square
UK - London WC1H 0NT,
United Kingdom
Tel +44 171 612 6758
Fax +44 171 612 6766

Michael Young: BA (Natural Sciences),
Cambridge; BSc (Sociology), London 1966;
MA (Sociology), Essex 1967; PhD (Hons)
Social Science, Joensuu 1989; 1959-1965
taught chemistry in secondary schools;
1967-1973 Lecturer (1973-1985 Senior Lec-
turer) in Sociology of Education, Institute
of Education at University of London; 1986-
1994, 1995- Head of Post-16 Education
Centre.

Professor Michael Young's research interests include curriculum issues in secondary and post-secondary education and their links to technological developments and changes in world economies. He has been a governor of a secondary school and Chair of Governors of a Further Education College. Recently he has been consultant to OECD and the UNESCO Centre for Educational Policy Development in South Africa. He is Co-Director (with John Woolhouse, University of Warwick) of the Learning for the Future Project and Director of the Hamlyn Post-16 Unified Curriculum Project. He has completed two evaluations of reforms in upper secondary education in Finland.

His recent publications include *A British Baccalauréat* (Co-author, IPPR, 1990); "A curriculum for the 21st century: Towards a new basis for overcoming academic/vocational divisions", *British Journal of Educational Studies*, 1993; "Modularisation and outcomes: Towards a strategy for unifying the post-16 curriculum" in J. Burke, (Ed.), *Outcomes and the Curriculum* (Falmer 1995); and "Post-compulsory education for a learning society", *Australian Journal of Vocational Education*, Spring 1995; (with Tom Leney and Ann Hodgson) *Overcoming academic/vocational divisions: Lessons from Scotland and France* (Post-16 Centre Working Paper, Jan 1995).

Despite its global and wide-ranging scope and its crucial importance as one of the preconditions of economic growth, vocational education and training may be the least studied and understood area of education.

Reforming Upper Secondary Education in Europe considers European reform strategies and European systems and institutions of vocational education and training and their response to the challenge of improving the parity of esteem for initial vocational education. The cases and conclusions are drawn from Austria, England, Finland, France, Germany, Norway, Scotland and Sweden.

The European importance of the theme is illustrated with the aim of promoting the parity of esteem between initial vocational education and academic/general upper secondary education by finding strategies that link vocational and academic/general post-16 education and training with working life. Part One deals with the issues surrounding the nature of and preconditions for a parity of esteem between the two traditions and forms of education. Part Two looks at the national contexts and status of initial vocational education in the framework of eight European upper secondary systems. Part Three compares six common issues related to vocational education reform strategies across the eight nations. Part Four discusses four hypothetically identified strategies of post-16 education involved in various attempts to place initial vocational education on a more equal footing with academic/general upper secondary education.

This volume is the interim report of the Leonardo da Vinci Project titled **Post-16 Strategies** that is coordinated by Dr. Johanna Lasonen in the Institute for Educational Research at the University of Jyväskylä, Finland. The two-year Project is carried out with the financial support of the Commission of the European Communities under the Leonardo da Vinci Programme.

This publication can be obtained from

Institute for Educational Research
University of Jyväskylä
PO Box 35 (Yliopistonkatu 9)
FIN-40351 Jyväskylä
Phone +358-14-603 220
E-mail teairama@jyu.fi
Fax +358-14-603 241
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